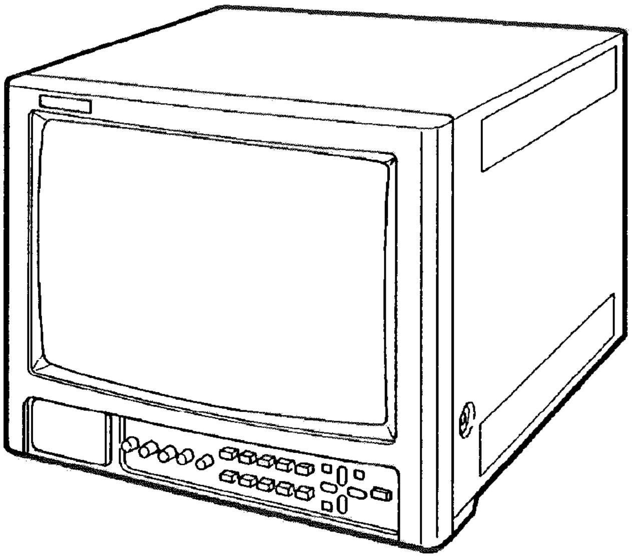
JVC

SERVICE MANUAL

COLOUR VIDEO MONITOR

BM-1400PN-A(A)

BASIC CHASSIS
BM



Since some details were changed so as to deal with SDI, we have issued the SERVICE MANUAL for BM-1400PN-A(A).

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No.51102B
Feb.1997

SPECIFICATIONS

Item	Content
Color system	PAL / NTSC 3.58 / NTSC4.43
Picture tube	36cm measured diagonally,90° deflection, in-line gun, medium - high - definition tinted cathode - ray tube, trio - dot type (dot pitch of 0.39mm) P-22 phosphor
Screen size	280×210 (W×H)
Scanning frequency	H : 15.734kHz (NTSC 3.58 / 4.43), 15.625kHz (PAL) V : 59.94Hz (NTSC 3.58 / 4.43), 50Hz (PAL)
Horizontal resolution	620TV lines or more
Color temperature	6500K;x = 0.313, y = 0.329 9300K;x = 0.283, y = 0.297 (selectable)
Video inputs	
Composite video signal	INPUT A,B(2lines) : BNC×2each (with 1 bridge-connected output) Termination switches provided 1.0Vp-p, 75Ω, negative sync
Y/C (1line)	Mini-DIN (4pin)×2 (with 1 bridge-connected output) termination switches provided Y : 1.0Vp-p, 75Ω, negative sync C : 0.286Vp-p, 75Ω (NTSC), 0.3Vp-p 75Ω (PAL)
Analog RGB	RGB / COMPONENT(SDI) (1line : common with Y, R-Y, B-Y), BNC×6 (with 3 bridge-connection outputs) termination switches provided R, B : 0.7Vp-p, 75Ω G : 0.7Vp-p, 75Ω Gonsync : 1.0Vp-p, 75Ω, negative sync
Y, R-Y, B-Y COMPONENT	RGB / COMPONENT(SDI) (1line : common with analog RGB) Y : 1.0Vp-p, 75Ω, negative sync R-Y, B-Y : 0.7Vp-p, 75Ω
External sync inputs	SYNC (1line) : BNC×2 (with 1 bridge-connection output) 0.2~4.0Vp-p composite sync, 75Ω negative sync Termination switch provided
Audio inputs	AUDIO A, B RGB / COMPONENT (3lines) : RCA×2each (with 1 bridge-connection output) 500mVrms, high impedance.
Audio power output	0.8W
Speaker	9×5cm oval×1
Tally / Remote control	DIN (8pin)×1
Power requirements	230V AC, 50/60 Hz
Power consumption	0.7A maximum
Operation temperature	0° ~ 40°C (20 ~ 80% RH)
Dimension	346×332×410mm (W×H×D)
Mass	16.2kg
SDI unit interface	The power supply of the monitor can be linked with that of the SDI unit. By employing the SDI unit, a SERIAL DIGITAL signal can be converted into an analog component signal. Because the SDI unit can be mounted at the back side of the monitor, the existing rack with ordinary height can be used as it is.

Design & specification subject to change without notice.

SAFETY PRECAUTIONS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes.
   For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (⚠)on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
4. **Don't short between the LIVE side ground and ISOLATED(NEUTRAL) side ground or EARTH side ground when repairing.**
   Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED(NEUTRAL) : (⏚) side GND and EARTH : (⊕) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.
   If above note will not be kept, a fuse or any parts will be broken.
5. If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B_1 POWER SUPPLY).
6. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
7. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.
8. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.
9. **Isolation Check**
   (Safety for Electrical Shock Hazard)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

(1) **Dielectric Strength Test**

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second.

(. . . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)

This method of test requires a test equipment not generally found in the service trade.

(2) **Leakage Current Check**

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).

- **Alternate Check Method**

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.35V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).

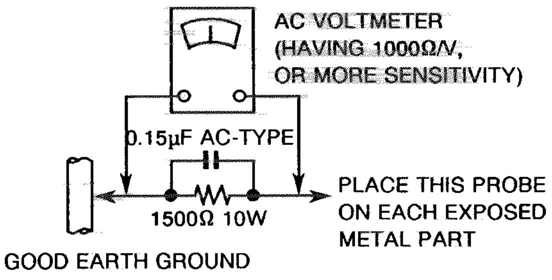


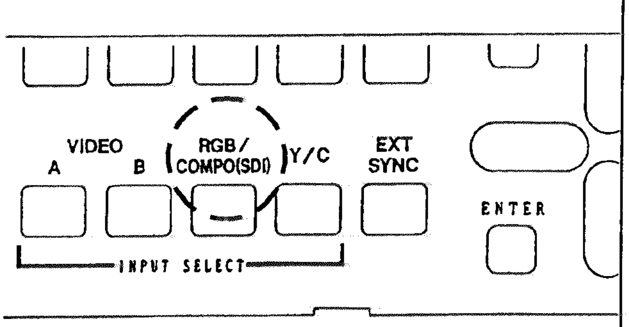
Fig.A

HOW TO IDENTIFY THE MODEL BM-1400PN-A(A)

Model number is indicated following items.
Please use this SERVICE MANUAL for the unit with the model No.of BM-1400PN-A(A).

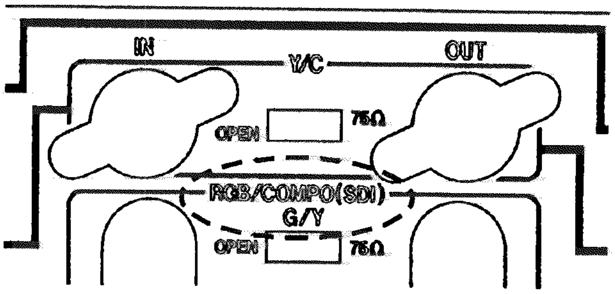
■THE CHANGING OF THE INDICATION THAT FRONT CONTROL PART

RGB / COMPO → RGB / COMPO(SDI)

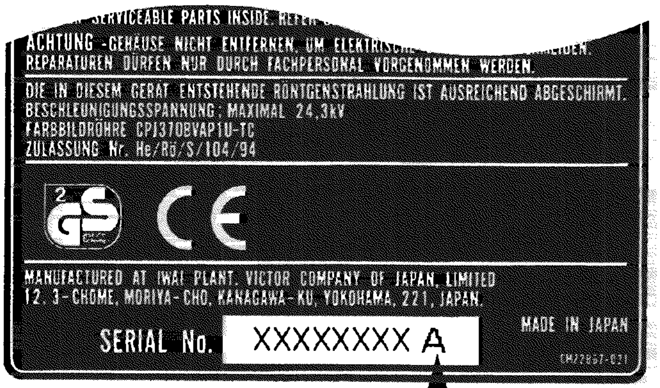


■THE CHANGING OF THE INDICATION THAT REAR TERMINAL PART

RGB / COMPO → RGB / COMPO(SDI)



■THE CHANGING OF THE INDICATION IN THE RATING LABEL


SERVICEABLE PARTS INSIDE. REFER
ACHTUNG -GEHÄUSE NICHT ENTFERNEN, UM ELEKTRISCHE
REPARATUREN DÜRFEN NUR DURCH FACHPERSONAL VORGENOMMEN WERDEN.
DIE IN DIESEM GERÄT ENTSTEHENDE RÖNTGENSTRAHLUNG IST AUSREICHEND ABGESCHIRMT.
BESCHLEUNIGUNGSSPANNUNG: MAXIMAL 24,3kV
FARBBILDRÖHRE CPJ3708VAP1U-TC
ZULASSUNG Nr. He/Rö/S/104/94
MANUFACTURED AT IWAI PLANT, VICTOR COMPANY OF JAPAN, LIMITED
12, 3-CHOME, MORIYA-CHO, KANAGAWA-KU, YOKOHAMA, 221, JAPAN.
SERIAL No. XXXXXXXX A
MADE IN JAPAN

INDICATED "A"

■MAIN DIFFERENCE LIST BETWEEN BM-1400PN-A AND BM-1400PN-A(A)

MODEL / PARTS NAME	BM-1400PN-A	**BM-1400PN-A(A)**	Description
MICOM PWB	FX-5017A	**FX-5018A**	Not Interchangeable
INPUT PWB	FX-6046A	**FX-6052A**	Not Interchangeable
CONTROL SHEET	CM35943-001	**CM35943-002**	Not Interchangeable
TERMINAL SHEET	CM35944-A01	**CM35944-A02**	Not Interchangeable
SDI LABEL	———	**CP40344-001**	Not Interchangeable

OPERATING INSTRUCTIONS

BM-H2000PN (A) / BM-H1400PN (A)
BM-1400PN-A (A)

BM-H2000PN/BM-H1400PN/BM-1400PN-A COLOUR VIDEO MONITOR

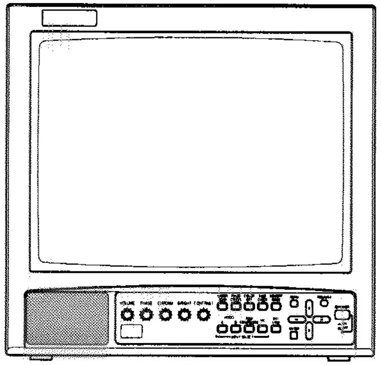
JVC

COLOUR VIDEO MONITOR

BEDIENUNGSANLEITUNG : FARB-VIDEO-MONITOR
MANUEL D'INSTRUCTIONS : MONITEUR VIDEO COULEUR
MANUALE DI ISTRUZIONI : MONITOR VIDEO A COLORI
INSTRUCCIONES : MONITOR DE VIDEO A COLOR

BM-H2000PN
BM-H1400PN
BM-1400PN-A

INSTRUCTIONS



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SAFETY PRECAUTIONS

In order to prevent any fatal accidents caused by misoperation or mishandling of the monitor, be fully aware of all the following precautions.

WARNINGS

To prevent fire or shock hazard, do not expose this monitor to rain or moisture.

Dangerous high voltages are present inside the unit. Do not remove the back cover of the cabinet.

When servicing the monitor, contact qualified service personnel. Never try to service it yourself.

Machine Noise Information Ordinance 3. GSGV, January 18, 1991: The sound pressure level at the operator position is equal or less than 70 dB(A) according to ISO 7779.

Improper operations, in particular alteration of high voltage or changing the type of tube may result in x-ray emission of considerable dose. A unit altered in such a way no longer meets the standards of certification, and must therefore no longer be operated.

PRECAUTIONS

- ●Use only the power source specified on the unit.
- ●When not using this unit for a long period of time, or when cleaning it, be sure to disconnect the power plug from the AC outlet.
- ●Do not allow anything to rest on the power cord. And do not place this unit where people will tread on the cord.
  Do not overload wall outlets or power cords as this can result in a fire or electric shock.
- ●Avoid using this unit under the following conditions:
  - in extremely hot, cold or humid places,
  - in dusty places,
  - near appliances generating strong magnetic fields,
  - in places subject to direct sunlight,
  - in badly ventilated places,
  - in automobiles with doors closed.
- ●Do not cover the ventilation slots while in operation as this could obstruct the required ventilation flow.
- ●When dust accumulates on the screen surface, clean it with a soft cloth.
- ●Unplug this unit from the AC outlet and refer servicing to qualified service personnel under the following conditions:
  - when the power cord is frayed or the plug is damaged,
  - if liquid has been spilled into the unit,
  - if the unit has been dropped or the cabinet has been damaged,
  - when the unit exhibits a distinct change in performance.
- ●Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Always refer servicing to qualified service personnel.
- ● When replacement parts are required, have the service personnel verify in writing that the replacement parts he/she uses have the same safety characteristics as the original parts. Use of manufacturer's specified replacement parts can prevent fire, shock, or other hazards.
- ●Upon completion of any servicing or repair work to this unit, please ask the service personnel to perform the safety check described in the manufacturer's service literature.
- ●When this unit reaches the end of its useful life, improper disposal could result in a picture tube implosion. Ask qualified service personnel to dispose of this unit.

SCREEN BURN

- ●It is not recommended to keep a certain still image displayed on screen for a long time as well as displaying extremely bright images on screen. This may cause a burning (sticking) phenomenon on the screen of cathode-ray tube. This problem does not occur as far as displaying normal video playback motion images.

This manual is divided into five language sections:
English, German, French, Italian and Spanish.

English	Pages 2 to 23
German	Pages 24 to 45
French	Pages 46 to 67
Italian	Pages 68 to 89
Spanish	Pages 90 to 111

Thank you for purchasing this JVC colour video monitor.Before using it, read and follow all instructions carefully to take fullest advantage of the monitor's performance.

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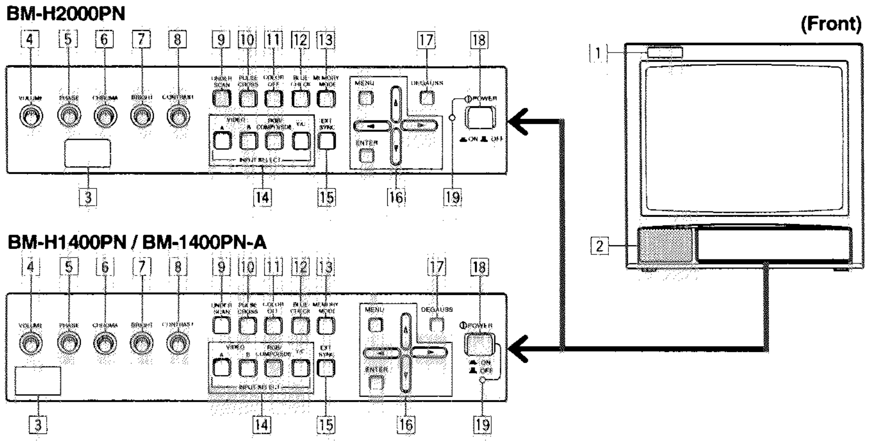
FEATURES

- ■ **For multiple applications with various video systems; equipped with external source component terminals that can be bridge-connected.**
- ■ **Compatible with NTSC-3.58/4.43 MHz or PAL colour systems.**
- ■ **The BM-H2000PN has a medium-high-definition picture tube that reproduces pictures with a horizontal resolution of 750 TV lines or more .**
  The BM-H1400PN has a high-definition picture tube that reproduces pictures with a horizontal resolution of 750 TV lines or more .
  The BM-1400PN-A has a medium-high-definition picture tube that reproduces pictures with a horizontal resolution of 620 TV lines or more .
- ■ **Auto white-balance stabiliser (I/K feedback circuit) maintains stable colour reproduction over long-term use.**
- ■ **A range of flexible functions includes picture aspect ratio switching (between 4:3 and 16:9), memory mode and control lock.**
- ■ **Optional exclusive wireless remote control unit enables individual operation and adjustment of up to 99-unit monitors.**

CONTROLS AND FEATURES (FRONT)



1 Tally lamp
Glows to indicate when a tally signal is input to the TALLY/REMOTE terminal on the rear panel. (For terminal connection, see page 15.)

2 Speaker

3 Remote control sensor
Senses infrared signals emitted from the optional wireless remote control.

4 VOLUME control
Turn to adjust speaker volume.

5 PHASE control
Turn to adjust picture hue, using natural skin colour as a reference.

6 CHROMA control
Turn to adjust picture colour density according to your requirements.

7 BRIGHT control
Turn to adjust picture brightness according to your requirements.

8 CONTRAST control
Turn to adjust the picture contrast according to your requirements.

9 UNDER SCAN switch
Push to display the whole picture on screen by reducing display area dimensions.

10 PULSE CROSS switch
Push to check the retrace period (sync signal) by delaying input signal phase.

11 COLOR OFF switch
Push to eliminate colour signals and display a black-and-white picture.

12 BLUE CHECK switch
Push to eliminate red and green colour signals and display a monochrome blue picture.

13 MEMORY MODE switch
Push to adjust the picture by recalling the adjustment data that you stored in memory.

14 INPUT SELECT switches
Push to select a rear terminal video signal input.

15 EXT SYNC switch
Push to synchronise the monitor with an external sync signal. This function is effective regardless of signal input.

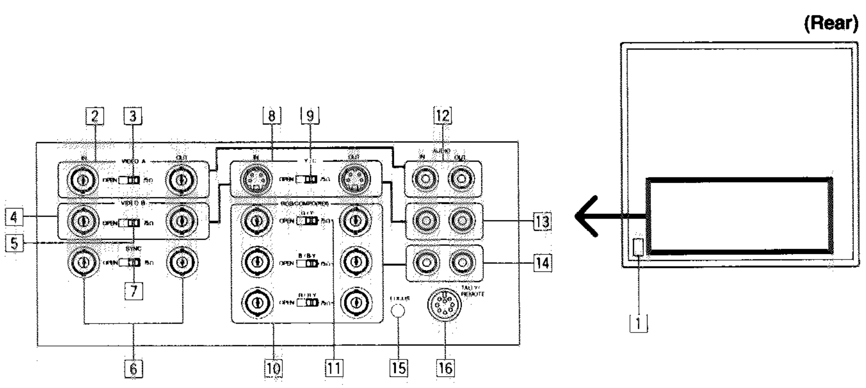
16 MENU controls
Use to operate on-screen menu functions.

17 DEGAUSS switch
Push to demagnetise the picture tube.

18 POWER switch
Press to turn the power on or off.

19 POWER indicator
Glows to indicate that power is on.

TERMINALS AND FEATURES (REAR)



1 Power socket
Connect to an AC outlet (230 V AC, 50/60 Hz) using the provided power cord.

2 VIDEO A terminals
Composite video signal input terminal and bridge-connected output terminal.

3 VIDEO A termination switch
Set to OPEN for bridged connection; set to 75Ω for input signal only.

4 VIDEO B terminals
Composite video signal input terminal and bridge-connected output terminal.

5 VIDEO B termination switch
Functions as for 3.

6 SYNC terminals
External sync signal input terminal and bridge-connected output terminal. Input an external composite sync signal to these terminals when inputting a video signal without a sync signal, or when synchronising the monitor with an external sync signal.

7 SYNC termination switch
Functions as for 3.

8 Y/C terminals
Input terminal of Y/C signals and bridge-connected output terminal.

9 Y/C termination switch
Functions as for 3.

10 RGB/COMPO(SDI) terminals
Input terminal of analogue RGB signals or Y/B-Y/R-Y signals and bridge-connected output terminal. For analogue RGB signals, also accepts a G signal including a sync signal.

11 RGB/COMPO(SDI) termination switch
Functions as for 3.

12 AUDIO A terminals
Audio signal input terminal and bridge-connected output terminal. Linked with the VIDEO A terminals so that AUDIO A terminals and VIDEO A terminals are selected simultaneously.

13 AUDIO B terminals
Audio signal input terminal and bridge-connected output terminal. Linked with the VIDEO B or Y/C terminals so that AUDIO B terminals and VIDEO B or Y/C terminals are selected simultaneously.

14 AUDIO RGB/COMPO(SDI) terminals
Audio signal input terminal and bridge-connected output terminal. Linked with the RGB/COMPO(SDI) terminals so that AUDIO RGB/COMPO(SDI) terminals and RGB/COMPO(SDI) terminals are selected simultaneously.

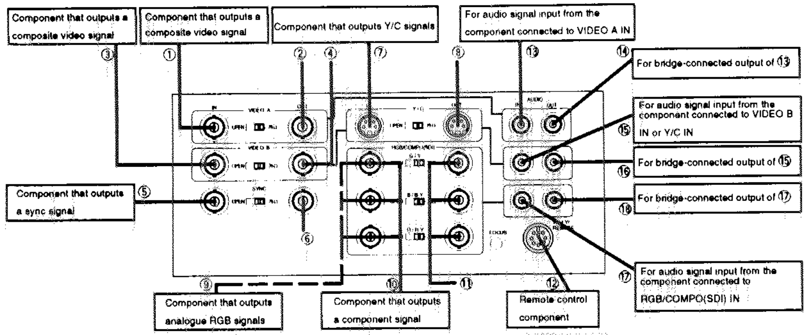
15 FOCUS control
Adjustment hole exclusively for use by service personnel. Make sure to consult qualified service personnel for adjustment.

16 TALLY/REMOTE terminal
External input terminal of a tally signal to make the tally lamp glow, or of a remote-control signal to switch input or picture control.

CONNECTION EXAMPLE

NOTE

- Be sure to turn off each component's power before connection.
- The connection shown below is only an example. Terminals and their functions differ in accordance with a component to be connected. Also read and follow the instructions for the component.


Component that outputs a composite video signal
③
Component that outputs a composite video signal
①
②
④
Component that outputs Y/C signals
⑦
⑧
For audio signal input from the component connected to VIDEO A IN
⑬
⑭
For bridge-connected output of ⑬
For audio signal input from the component connected to VIDEO B IN or Y/C IN
⑮
For bridge-connected output of ⑮
⑯
For bridge-connected output of ⑰
⑱
Component that outputs a sync signal
⑤
⑥
⑨
Component that outputs analogue RGB signals
⑩
Component that outputs a component signal
⑪
⑫
Remote control component
⑰
For audio signal input from the component connected to RGB/COMPO(SDI) IN

	Signal(s)	Terminal	Function
①	Composite video	VIDEO A IN	Input of a composite video signal
②	Composite video	VIDEO A OUT	Bridge-connected output of ①
③	Composite video	VIDEO B IN	Input of a composite video signal
④	Composite video	VIDEO B OUT	Bridge-connected output of ③
⑤	Composite sync	SYNC IN	Input of an external sync signal
⑥	Composite sync	SYNC OUT	Bridge-connected output of ⑤
⑦	Y/C	Y/C IN	Input of Y/C signals
⑧	Y/C	Y/C OUT	Bridge-connected output of ⑦
⑨	Analogue RGB	RGB/COMPO(SDI) IN	Input of analogue RGB signals
⑩	Component	RGB/COMPO(SDI) IN	Input of a component signal
⑪	Analog RGB or component	RGB/COMPO(SDI) OUT	Bridge-connected output of ⑨ or ⑩
⑫	Tally/remote control	TALLY/REMOTE	Input of a tally signal or remote control signal

External/internal synchronisation

Push the front panel EXT SYNC switch to ON, and the monitor operates to synchronise with an external sync signal input to the rear panel SYNC IN terminal.

Push the switch again to OFF, and the monitor operates to synchronise with a sync signal included in a video signal (if it includes a sync signal) input via a video input terminal.

RGB/COMPO(SDI) terminal setting

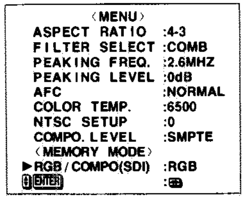
Set RGB or COMPO. on screen to match the type of video signal input to the rear panel RGB/COMPO(SDI) IN terminals.

To input analogue RGB signals, set to RGB.

To input Y, B-Y or R-Y signal, set to COMPO..

Operation:

1. Press the front panel MENU button to call up the MENU display on screen.
2. Press the ▲ or ▼ button to select RGB/COMPO(SDI).
3. Press the ◀ or ▶ button to set RGB or COMPO..
4. Press the MENU button to complete.



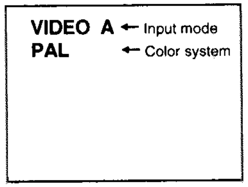
```
        〈MENU〉
  ASPECT RATIO    :4-3
  FILTER SELECT   :COMB
  PEAKING FREQ.   :2.6MHZ
  PEAKING LEVEL   :0dB
  AFC             :NORMAL
  COLOR TEMP.     :6500
  NTSC SETUP      :0
  COMPO. LEVEL    :SMPTE
  〈MEMORY MODE〉
 ▶RGB / COMPO(SDI) :RGB
```

BASIC OPERATION

1. To turn the power on:

Push the POWER switch.

The POWER indicator glows green. The mode and colour system of an input signal are automatically discerned and displayed on screen for about 3 seconds. To turn off power, push the POWER switch again, and the POWER indicator goes off.



```
VIDEO A ← Input mode
PAL     ← Color system
```

2. To select the input:

Push an INPUT SELECT switch.

Push VIDEO A, VIDEO B, RGB/COMPO(SDI) or Y/C. The mode and colour system of a selected input signal are automatically discerned and displayed on screen for about 3 seconds.

3. To adjust the audio level:

Turn the VOLUME control to the right to increase the level, or to the left to decrease the level.

- Relation between input mode indication and signal input/terminal

Input mode indication	Signal input/terminal
VIDEO A	Composite video signal input to VIDEO A IN
VIDEO B	Composite video signal input to VIDEO B IN
Y/C	Y/C signal input to Y/C IN
RGB	Analogue RGB signal input to RGB/COMPO(SDI) IN
COMPO(SDI)	Component signal input to RGB/COMPO(SDI) IN

- Colour system indication

Indication	Colour system	Colour sub-carrier frequency	Vertical scanning frequency
NTSC	NTSC	3.58 MHz	60 Hz
PAL	PAL	4.43 MHz	50 Hz
N4.43	NTSC	4.43 MHz	60 Hz
B/W	(Indicates when a black-and-white signal is input)		
NO SYNC	(Indicates when no signal is input)		

To demagnetise the picture tube

After positioning near the monitor a speaker (non-magnet-shielded) or other equipment that generates a strong magnetic field, or after relocating the monitor, colour patches could appear in the picture due to magnetisation of the picture tube. If this occurs, push the DEGAUSS switch to demagnetise the picture tube.

NOTE

- This function is not effective if activated a second time after a very short time has elapsed. When degaussing must be repeated, proceed after at least 10 minutes have passed since first degaussing.
- The optional wireless remote control features a DEGAUSS key.

PICTURE ADJUSTMENTS

Turn a separate front panel control to adjust picture contrast, picture brightness, picture colour density, and picture hue respectively:

CONTRAST (picture contrast)

Softer Clearer

BRIGHT (picture brightness)

Darker Brighter

CHROMA (picture colour density)

Thinner Denser

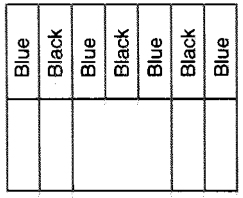
PHASE (picture hue)

Purplish Greenish

NOTE

- To adjust the CHROMA and PHASE controls more precisely, input the colour bar signal and operate the BLUE CHECK function as follows:

After inputting the colour bar signal, push the front panel BLUE CHECK switch to display a monochrome blue picture without red/green signal components. Turn the CHROMA and PHASE controls so that all (four, in the example below) blue bars have the same density and brightness.



Relation between picture adjustments and input video signals

Each picture adjustment is effective for the following video signal input:

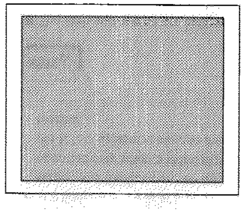
Signal / Control	Composite video, Y/C				RGB	COMPONENT
	NTSC	PAL	NTSC 4.43	B/W		
PHASE	Yes	No	Yes	No	No	No
CHROMA	Yes	Yes	Yes	No	No	Yes
BRIGHT	Yes	Yes	Yes	Yes	Yes	Yes
CONTRAST	Yes	Yes	Yes	Yes	Yes	Yes

VIDEO SIGNAL CONTROLS

Push each switch to ON or OFF for video signal control.

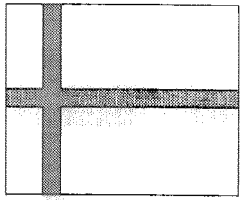
UNDER SCAN

Push the UNDER SCAN switch to reduce the dimensions of display area so the whole picture is displayed on screen. Use to check the picture frame.



PULSE CROSS

Push the PULSE CROSS switch to simultaneously display two blank areas crossed horizontally and vertically on screen ("Pulse Cross" display) by delaying the phase of the input signal. Use to check the vertical retrace line period, equalizing pulse period, vertical sync period, horizontal sync pulse, or burst signal.



NOTE

- This function is not effective for analogue RGB signal input.

COLOR OFF

Push the COLOR OFF switch to display a black-and-white picture by inputting a luminance signal only. Use to check the noise contained in a luminance signal or white balance.

NOTE

- This function is not effective for analogue RGB signal input.

BLUE CHECK

Push the BLUE CHECK switch to display a monochrome blue picture by eliminating red and green signal components. Use to check or adjust the CHROMA and/or PHASE controls.

ON-SCREEN MENU CONTROLS

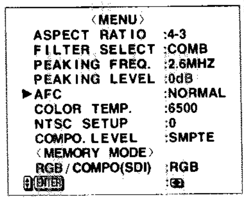
By calling up the menu display on screen, various functions can be selected and set as needed.

Calling up the menu display, selecting an item

1. Press the MENU button to call up the menu display on screen (see [1] below). (Press again to make the display disappear.)
2. Press the ▲ or ▼ button to select an item to be set. "▶" is indicated for the selected item.
3. Press the ◀ or ▶ button to change the setting.
4. After selecting another item by pressing the ▲ or ▼ button, repeat step 3. These settings are all kept in memory after power is turned off.
5. Press the MENU button to complete. The menu display disappears.

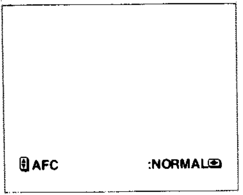
NOTE

- When the menu display [1] (shown at left below) is on screen, press the ENTER button. The display changes to [2] (shown below centre). In this state, you can also select the item or change the setting.
- When the display [2] is on screen, each time the ▼ button is pressed while the ENTER button pressed, the indication moves up or down on screen (the display [3]). Press the MENU button with display [2] or [3] on screen, and the display is restored to [1].
- If no operation occurs for about 5 minutes after calling up the menu display on screen, the display disappears automatically.



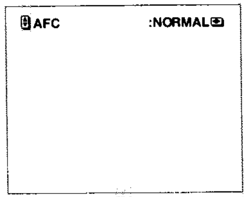
```
      〈MENU〉
  ASPECT RATIO    :4-3
  FILTER SELECT   :COMB
  PEAKING FREQ.   :2.6MHZ
  PEAKING LEVEL   :0dB
▶AFC              :NORMAL
  COLOR TEMP.     :6500
  NTSC SETUP      :0
  COMPO. LEVEL    :SMPTE
  〈MEMORY MODE〉
  RGB/COMPO(SDI)  :RGB
 ENTER            :
```

[1]



```
AFC               :NORMAL
```

[2]



```
AFC               :NORMAL
```

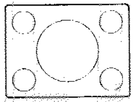
[3]

ASPECT RATIO (picture aspect ratio switching)

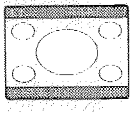
The aspect ratio of the picture can be switched between 4:3 and 16:9. When switching to "16-9" on screen, the height of the picture is slightly reduced (see right).

Setting	Function
4-3	Standard picture aspect ratio (4:3)
16-9	Displays the picture in 16:9 aspect ratio

- 4:3



- 16:9



FILTER SELECT (built-in filter selection)

When a composite video signal of the NTSC system (excluding NTSC 4.43) is input to the monitor, either or both of two filters in the monitor can be activated.

Setting	Function
COMB (comb filter)	Reduces colour noise in NTSC video signals for clearer pictures.
BOTH (both filters)	Both comb and trap filters function at the same time.
NOTCH (Trap filter)	Eliminates dot interference that would show up in the vertical boundary between two different colours.

NOTE

- The function can be operated and the indication appears only when a composite video signal of the NTSC system (excluding NTSC 4.43) is input to the monitor.

ON-SCREEN MENU CONTROLS (continued)

PEAKING FREQ./PEAKING LEVEL (picture quality improvement)

Corrects the luminance signal to improve picture quality by changing peak frequency and/or peak level depending on the video signal input to the monitor. Use PEAKING FREQ. to set correction frequency. Use PEAKING LEVEL to set correction level.

Setting (frequency)	Function
2.6 MHz	For composite video signal or Y/C signal.
5.0 MHz	For component video signal.

Setting (level)	Function
0 dB to +9 dBs	Set a higher level for correction to a higher degree.

NOTE

- When analogue RGB signals are input to the monitor, the indications do not appear and the functions cannot be operated.

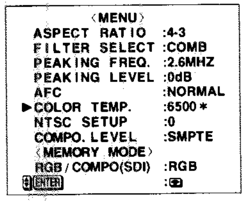
AFC (switching of time constant for the AFC)

Use to set the time constant for the AFC (auto fine-frequency control) to correct skew distortion of video signals input via a videotape recorder or other video equipment.

Setting	Function
NORMAL	Normal-speed correction.
FAST	Faster correction.
SLOW	Slower correction.

NOTE

- By changing the default setting of white balance adjustment under the SET-UP MENU display (see page 15 for adjustment), the ✻ indication is added to the right of the setting to indicate that the factory-preset setting was changed.



```
      〈MENU〉
  ASPECT RATIO    :4-3
  FILTER SELECT   :COMB
  PEAKING FREQ.   :2.6MHZ
  PEAKING LEVEL   :0dB
  AFC             :NORMAL
▶COLOR TEMP.      :6500 *
  NTSC SETUP      :0
  COMPO. LEVEL    :SMPTE
  〈MEMORY MODE〉
  RGB/COMPO(SDI)  :RGB
 ENTER            :
```

COLOR TEMP. (colour temperature switching)

Use to set the colour temperature of white balance.

Setting	Function
9300	To 9300K.
6500	To 6500K.

NTSC SETUP (NTSC set-up level)

Use to set up the luminance signal level to match the configuration of the video signal input to the monitor.

Setting	Function
0	For video signal with 0% luminance signal
7.5	For video signal with 7.5% luminance signal

NOTE

- The item and setting are indicated on screen and the function can be operated only when a video signal of the NTSC system is input to the monitor.

COMPO. LEVEL (chrominance level setting)

Use to set the chrominance level of a component video signal.

Setting	Function
SMPTE	For component video signal input via an MII videotape recorder.
BETA00	For component video signal input (set-up level: 0%) via a BETACAM videotape recorder.
BETA75	For component video signal input (set-up level: 7.5%) via a BETACAM videotape recorder.

NOTE

- The item and setting are indicated on screen and the function can be operated only when a component video signal is input to the monitor.

MEMORY MODE

A set of picture settings can be programmed in memory for quick recall when necessary.

Recall/release of memory mode

Press the MEMORY MODE switch to recall a set of picture settings programmed in memory.

Pressing the switch locks the functions of the front-panel PHASE, CHROMA, BRIGHT, CONTRAST controls, and remote-control picture adjustments not to be operated.

Press again to release memory mode.

NOTE

- If you attempt to operate a locked function, "MEMORY MODE ON!!" appears on screen for approx. 2 seconds to indicate the function cannot be operated.

Setting programming of the picture being monitored

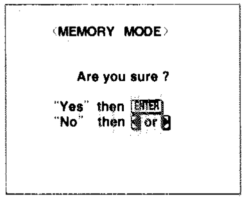
The settings of the picture being monitored can be programmed in memory.

Settings programmable in memory mode:
- Settings of the CONTRAST, BRIGHT, CHROMA and PHASE controls on the front panel
- On-screen menu function settings (except RGB/COMPO(SDI))
- Remote-control picture adjustment settings

1. Check the MEMORY MODE switch is off.
2. Press the MENU button.
3. Press the ▲ or ▼ button to select MEMORY MODE.
Then press the ENTER button.
4. ● Press the ENTER button to programme.
● Press the ◀ or ▶ button to cancel.

NOTE

- Programmed picture settings are kept in memory after the power is turned off.



```
〈MEMORY MODE〉

Are you sure ?

"Yes" then ENTER
"No"  then ◀ or ▶
```

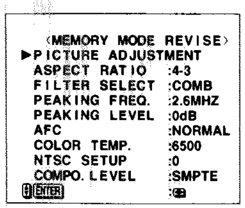
Revision of memory mode

Programmed picture settings can be revised if necessary.

1. Press the MEMORY MODE switch to activate memory mode.
2. Press the MENU button to call up display 1 on screen.

NOTE

- No matter what video signal is input, all items appear on screen. However, depending on the type of input video signal, some functions might not operate even if their settings are made.



```
  〈MEMORY MODE REVISE〉
▶PICTURE ADJUSTMENT
 ASPECT RATIO     :4-3
 FILTER SELECT    :COMB
 PEAKING FREQ.    :2.6MHZ
 PEAKING LEVEL    :0dB
 AFC              :NORMAL
 COLOR TEMP.      :6500
 NTSC SETUP       :0
 COMPO.LEVEL      :SMPTE
 ENTER            :
```

1

MEMORY MODE (continued)

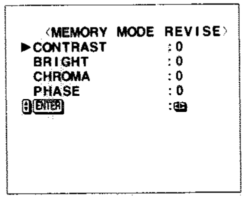
3. Press the ▲ or ▼ button to select a function to be revised.

Press the ENTER button after selecting PICTURE ADJUSTMENT to call up display 2.

After making all settings on screen, press the MENU button to make display 1 appear.

4. Press the ◀ or ▶ button to change the set level.

Adjustable CONTRAST, BRIGHT, CHROMA or PHASE range depends on each set level previously stored in memory. MAX appears to indicate maximum level that cannot be increased. MIN appears to indicate minimum level that cannot be decreased.



```
  〈MEMORY MODE REVISE〉
▶CONTRAST       :0
 BRIGHT         :0
 CHROMA         :0
 PHASE          :0
 ENTER          :
```

2

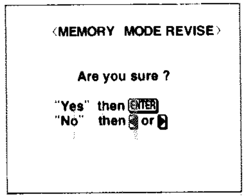
●Variable setting range

Function		Variable setting range	Default set level
PICTURE ADJUST-MENT	CONTRAST	-20 to +20	0
	BRIGHT	-20 to +20	0
	CHROMA	-20 to +20	0
	PHASE	-20 to +20	0
ASPECT RATIO		4:3 16:9	4:3
FILTER SELECT		COMB BOTH NOTCH	COMB
PEAKING FREQ.		2.6MHz 5.0MHz	2.6MHz
PEAKING LEVEL		0dB + 1dB ··· +9dB	0dB
AFC		NORMAL FAST SLOW	NORMAL
COLOR TEMP.		9300 6500	6500
NTSC SETUP		0 7.5	0
COMPO. LEVEL		SMPTE BETA00 BETA75	SMPTE

NOTE

- If the ENTER button is pressed after a function other than PICTURE ADJUSTMENT is selected, the on-screen display changes into a single-line one. To select another function after making a change in function, press the MENU button to restore display 1.

5. With display 1 on screen, press the MENU button to make display 3 appear.
●Press the ENTER button to programme.
●Press the ◀ or ▶ button to cancel.



```
〈MEMORY MODE REVISE〉

Are you sure ?

"Yes" then ENTER
"No"  then ◀ or ▶
```

3

SET-UP FOR MONITOR INSTALLATION

When installing the monitor, make set-up adjustments required for the picture settings to match conditions where the monitor is to be used.

To call up SET-UP MENU and select a function:

1. To make [1] (SET-UP MENU) appear, with the ENTER button pressed, press the MENU button.
2. Press the ▲ or ▼ button to select an adjustment item.
   (To set STATUS DISPLAY or CONTROL LOCK, steps 3 and 4 are not necessary.)
3. Press the ENTER button to call up the adjustment menu [2] of a selected item (e.g. WHITE BALANCE).
4. Press the ▲ or ▼ button to select a function to be adjusted.
5. Press the ◀ or ▶ button to change the setting.
6. With the display [1] on screen, press the ▲ or ▼ button to select another function and repeat step 5.
7. Press the MENU button to complete. SET-UP MENU disappears.
   - To make [1] (SET-UP MENU) disappear:
     Press the MENU button.
   - To make [2] (e.g. WHITE BALANCE) disappear:
     Press the MENU button twice.

```
      〈SET-UP MENU〉
  SIZE/CENTERING
▶WHITE BALANCE ADJUST
  REMOTE SELECT
  STATUS DISPLAY:ON
  CONTROL LOCK  :OFF
⇕ENTER          :⊞
```

[1]

```
    〈WHITE BALANCE〉
▶RED DRIVE        :0
  GREEN DRIVE     :0
  BLUE DRIVE      :0
  RED CUTOFF      :0
  GREEN CUTOFF    :0
  BLUE CUTOFF     :0
⇕ENTER            :⊞
```

[2]

NOTE

- Each time the MENU button is pressed, the previous menu is restored.

SIZE/CENTERING (size/positioning adjustments of RGB signal pictures)

For analogue RGB video signal pictures, horizontal size, vertical size, horizontal positioning and vertical positioning can be finely adjusted.

Adjustment (level)	Function
H. POSITION (-10, -9 ... 0 ... +9, +10)	+ moves the picture to right. - moves the picture to left.
V. POSITION (-10, -9 ... 0 ... +9, +10)	+ moves the picture down. - moves the picture up.
H. SIZE (-10, -9 ... 0 ... +9, +10)	+ makes the picture wider. - makes the picture narrower.
V. SIZE (-10, -9 ... 0 ... +9, +10)	+ makes the picture higher. - makes the picture lower.

NOTE

- SIZE/CENTERING appears and the function is operable only when monitoring the picture of analogue RGB video signals.

SET-UP FOR MONITOR INSTALLATION (continued)

WHITE BALANCE ADJUST (white balance adjustments)

Before making these adjustments, select the colour temperature 9300K or 6500K on MENU.

Adjustment (level)	Function
RED DRIVE (-10, -9, ... 0 ... +9, +10)	Adjusts the drive level of a red signal component.
GREEN DRIVE (-10, -9, ... 0 ... +9, +10)	Adjusts the drive level of a green signal component.
BLUE DRIVE (-10, -9, ... 0 ... +9, +10)	Adjusts the drive level of a blue signal component.
RED CUTOFF (-10, -9, ... 0 ... +9, +10)	Sets the cut-off voltage of a red signal component.
GREEN CUTOFF (-10, -9, ... 0 ... +9, +10)	Sets the cut-off voltage of a green signal component.
BLUE CUTOFF (-10, -9, ... 0 ... +9, +10)	Sets the cut-off voltage of a blue signal component.

NOTE

- By making white balance adjustments on SET-UP MENU, ✻ appears to the right of the COLOR TEMP. setting on MENU (see page 11).

REMOTE SELECT (TALLY/REMOTE-terminal settings)

Via the TALLY/REMOTE terminal, the tally lamp can be turned on/off, or a function (selected from display [3] shown on the right) can be operated using an external control.

```
  〈REMOTE SELECT〉
▶INPUT   :A↔B
  CNTL-1 :UNDER SCAN
  CNTL-2 :ASPECT RATIO
⇕ENTER   :⊞
```

[3]

INPUT setting indications and selected inputs

✻: indicates when deactivating the remote control via the TALLY/REMOTE terminal

Setting indication	NOT USE	A↔B	A↔Y/C	A↔RGB	A↔COMPO	B↔Y/C	B↔RGB	B↔COMPO	Y/C↔RGB	Y/C↔COMPO	RGB↔COMPO
Short-circuit	✻	A	A	A	A	B	B	B	Y/C	Y/C	RGB
Open-circuit	✻	B	Y/C	RGB	COMPO.	Y/C	RGB	COMPO.	RGB	COMPO.	COMPO.

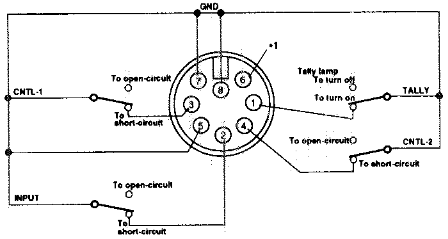
CNTL-1/CNTL-2 setting indications and set positions

✻: indicates when deactivating the remote control via the TALLY/REMOTE terminal

Setting indication	NOT USE	UNDER SCAN	PULSE CROSS	COLOR OFF	BLUE CHECK	EXTERNAL SYNC	ASPECT RATIO	COLOR TEMP.	AUDIO MUTE
Short-circuit	✻	ON	ON	ON	ON	External	16:9	6500	ON
Open-circuit	✻	OFF	OFF	OFF	OFF	Internal	4:3	9300	OFF

●TALLY/REMOTE terminal functions

All controls via TALLY/REMOTE terminal are made by short-circuiting or open-circuiting any pin from Pin 1 to 4 and either Pin 7 or 8 (GND each) of this terminal.
When using this terminal, be sure to short-circuit Pin 5 and either Pin 7 or 8.



NOTE

- When the TALLY/REMOTE terminal is used, the following functions become deactivated (except when they are set to "NOT USE"):
  - Front INPUT SELECT and EXT SYNC switches
  - Front UNDER SCAN, PULSE CROSS, COLOR OFF and BLUE CHECK switches
  - On-screen MENU's ASPECT RATIO and COLOR TEMP. functions
  - Remote MUTE key
- If a function is applied to both CNTL-1 and CNTL-2, CNTL-1 has priority.

*1: Pin 6 is DC power output pin. It outputs DC 5 V when the monitor's power is on. (Do not short-circuit pin 6 directly to ground.)

SET-UP FOR MONITOR INSTALLATION (continued)

STATUS DISPLAY (setting the status display to on/off)

When the power is turned on or the input mode is switched, the status display (colour system and input mode) appears on screen. The display can be set to on or off.

Setting	Function
ON	Status display appears.
OFF	Status display does not appear.

CONTROL LOCK (deactivation of front-control functions)

Set CONTROL LOCK to ON on screen to deactivate the front-control functions (front VOLUME control and remote volume control are operable).

Setting	Function
ON	Deactivates the front controls (except front/remote volume controls).
OFF	Releases deactivated functions.

NOTE

- ● If you attempt to operate a locked function, "CONTROL LOCK ON!!" appears on screen for approx. 2 seconds to indicate the function cannot be operated.
- ● Once CONTROL LOCK is deactivated, the current settings of the front-control knobs and buttons are activated.
- ● If the power is turned off with CONTROL LOCK activated, the function is kept in memory.

PICTURE SETTING INITIALISATION

MENU and/or SET-UP MENU settings including added changes can be reset (initialised) to their factory-preset conditions.

To initialise MENU settings only

MENU settings (except MEMORY MODE and RGB/COMPO(SDI)) can be exclusively reset:

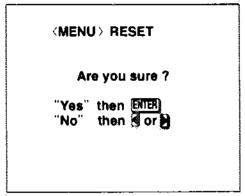
1. With the ▼ button pressed, press the MENU button to display 1 on screen.

2. ● Press the ENTER button to reset.

● Press the ◀ or ▶ button to cancel.

NOTE

●For factory-presets on the MENU settings, see page 21



〈MENU〉 RESET

Are you sure ?

"Yes" then ENTER
"No" then ◀ or ▶

1

● MENU and PICTURE ADJUST settings (except MEMORY MODE and RGB/COMPO(SDI)) can also be simultaneously reset via the optional wireless remote control unit:

1. Press the MENU key to display MENU on screen.

2. Press the RESET key to execute.

To initialise both MENU/SET-UP MENU settings

MENU and SET-UP MENU settings other than MEMORY MODE and RGB/COMPO(SDI) can be reset at the same time. In this case, PICTURE ADJUST settings via remote control are also reset, and the monitor's ID number is also reset to 00.

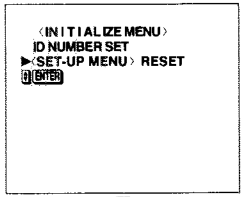
1. Press the POWER switch to turn the power off.

2. With the ▼ and MENU buttons pressed, press the POWER switch to turn the power on. Keep pressing the ▼ and MENU buttons until 2 appears on screen.

3. Press the ▲ or ▼ button to select SET-UP MENU RESET. Then press the ENTER button to display 3 on screen.

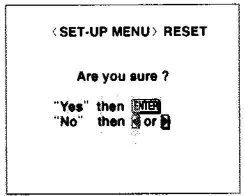
4. ● Press the ENTER button again to execute.

● Press the ◀ or ▶ button to cancel.



〈INITIALIZE MENU〉
ID NUMBER SET
▶〈SET-UP MENU〉 RESET
⇕ ENTER

2



〈SET-UP MENU〉 RESET

Are you sure ?

"Yes" then ENTER
"No" then ◀ or ▶

3

REMOTE CONTROLS

The optional wireless remote control unit (RM-C550W) operates the following:

- **On-screen menu functions (MENU, SET-UP MENU, etc.)**
- **Picture adjustments (CONTRAST, BRIGHT, CHROMA, PHASE)**
- **Sound adjustments (VOLUME, MUTE)**

On-screen menu remote operation

Remote keys and front controls with the same designation share the common functions. For detailed operation, see instructions about each menu function in this manual.

Picture adjustments

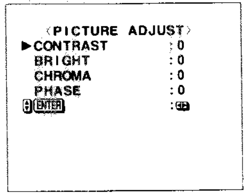
Each adjustable range depends on the setting of the front CONTRAST/BRIGHT/CHROMA or PHASE control. If an adjustment is made via remote control with the front control set approximately to the maximum or minimum, the level may indicate a certain change on screen but may not actually increase or decrease.

1. Press the PICTURE key to display PICTURE ADJUST.
2. Press the ▲ or ▼ key to select an item.
3. Press the ◀ or ▶ key to change the level:
   ◀ : Moves the cursor to left (to decrease the level).
   ▶ : Moves the cursor to right (to increase the level).
4. Press the ▲ or ▼ key to another item and repeat step **3**.
5. Press the PICTURE key to complete.

- **To standardise all settings on PICTURE ADJUST:**
  After step 1, press the RESET key.

NOTE

- When monitoring the picture of analogue RGB signals, component signal or black-and-white signal, CHROMA and PHASE do not appear and cannot be adjusted.
- When a video signal of the PAL system is input to the monitor, PHASE does not appear and cannot be adjusted.


〈PICTURE ADJUST〉
▶CONTRAST : 0
BRIGHT : 0
CHROMA : 0
PHASE : 0

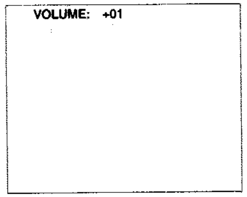
NOTE

- Each time the PICTURE key is pressed, the previous display is restored.

Sound adjustments

A variable range depends on the setting of the front VOLUME control. If audio level is remote-controlled with front VOLUME control set approximately to the maximum or minimum, the level may indicate a certain change on screen but may not actually increase or decrease.

- Press the VOLUME – or + key to decrease or increase the level (within ±20).
- Press the MUTE key to mute the sound. MUTE appears on screen for approx. 3 seconds. Press again to release.


VOLUME: +01

NOTE

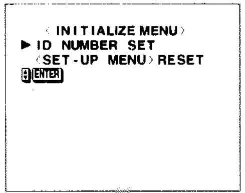
- If the power is turned off with sound-muting activated, the function is kept in memory.
- To release sound-muting, turn the front VOLUME control or press the remote VOLUME – or + key.

EACH REMOTE CONTROL OF PLURAL MONITORS

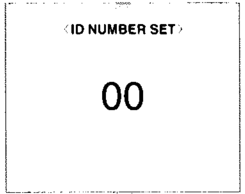
To operate or adjust plural units of monitors, by programming and assigning an ID number (00 to 99) for each monitor, a specified monitor can be remote-controlled.

To programme an ID number (use front controls):

1. Press the POWER switch to turn the power off.
2. With the ▼ and MENU buttons pressed, press the POWER switch to turn the power on. Keep pressing the ▼ and MENU buttons until [1] appears.
3. Press the ▲ or ▼ button to select ID NUMBER SET. Then press the ENTER button to display [2].
4. Select an ID number.
   - Press the ▶ button to increase.
   - Press the ◀ button to decrease.
5. Press the ENTER button to programme.


〈INITIALIZE MENU〉
▶ ID NUMBER SET
〈SET-UP MENU〉RESET

[1]


〈ID NUMBER SET〉
00

[2]

To call up an ID number (use remote unit):

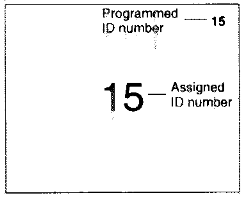
1. Press the DISPLAY key to indicate a programmed ID number at top right of the screen.
   - Red-indicated ID number:
     indicates the monitor can be remote-controlled.
   - Green-indicated ID number:
     indicates the monitor cannot be remote-controlled.
2. Press the DISPLAY key to make the number disappear.

NOTE

- ID number 00 is always indicated in red.

To assign a monitor (use remote control):

1. Press the DISPLAY key to display the monitor's programmed ID number.
2. Press the numeric keys to enter the monitor's ID number.
   The entered ID number appears and blinks on screen centre.
3. Press the ID SET key to complete.
   The programmed ID number in the top right of the screen turns red to indicate the monitor was assigned. Other monitors' ID numbers are indicated in green.
4. After adjusting the monitor, repeat steps **2** to **4** to adjust each monitor if necessary.
5. Press the DISPLAY key to clear on-screen ID numbers.



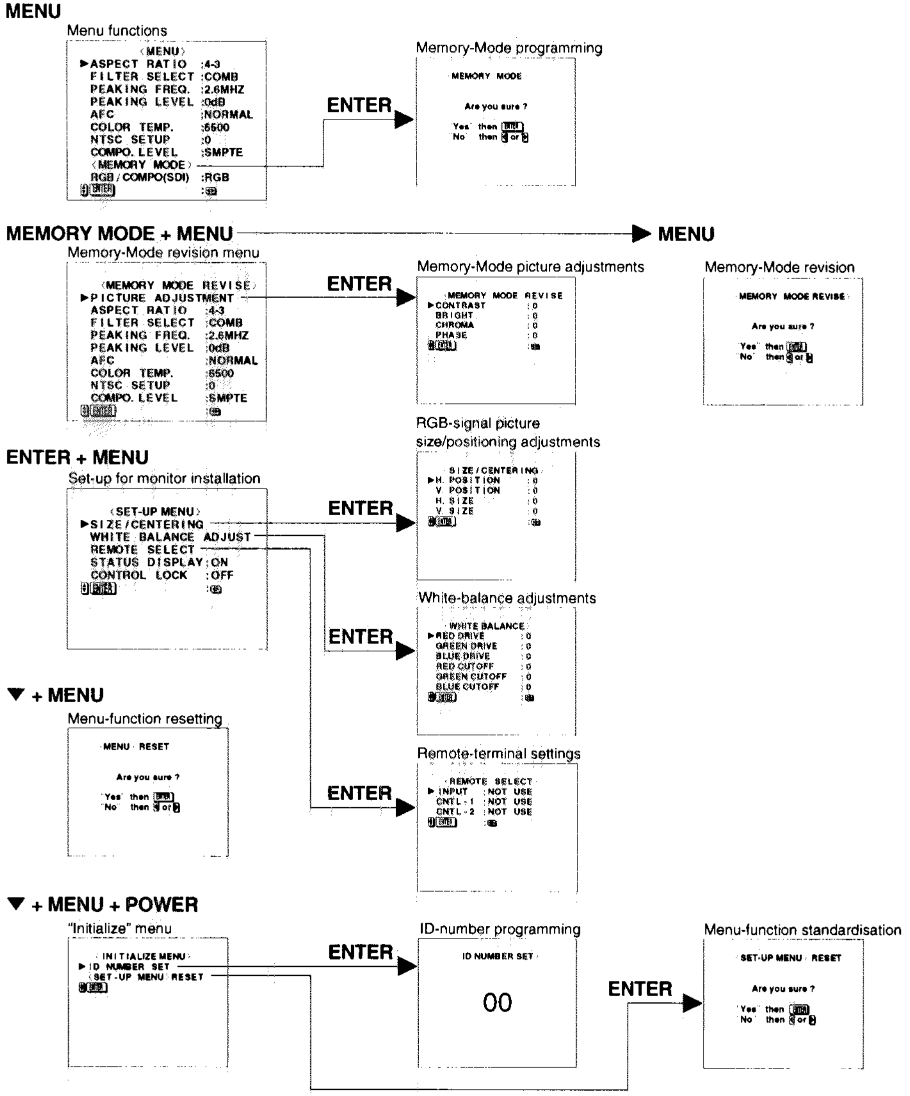
BEFORE CALLING FOR SERVICE

Before concluding a problem has occurred, check the following points. If the problem persists after carrying out the checks, disconnect the power cord from the AC outlet and consult the dealer from whom you purchased the monitor.

Problems	Points to be checked	Measures
Inoperable adjustment controls or buttons.	Is MEMORY MODE switched on?	Switch off.
	Is CONTROL LOCK activated?	Deactivate it.
Abnormal picture adjustments with all controls at centre.	Are PICTURE ADJUST menu settings changed via remote control?	Reset to standard settings.
Inoperable picture synchronisation.	Is EXT SYNC switched on?	Switch to off.
Inoperable remote-controlled picture adjustments.	Are the front controls set approximately to the maximum or minimum?	If so, the settings may not extend any more via remote control (although setting levels indicated on screen may show a slight change).
Assigned remote control ID number operates another monitor.	Is ID number 00 programmed for other monitors?	Programme an ID number other than 00.
	Do other monitors indicate a red ID number?	Assign the ID number again.
Inoperable remote control.	Is the ID number programmed for other monitors assigned?	Assign the monitor's programmed ID number.
No sound via audio signal input.	Does the audio input terminal match the video input terminal?	Each audio input terminal is linked with a video input terminal.
No INITIALIZE MENU display.	Are you pressing the ▼ and MENU buttons until it appears?	Keep pressing these buttons until it appears.
Inoperable CNTL-2 external control via TALLY/REMOTE terminal.	Is a function applied common to CNTL-1 and CNTL-2?	Set other functions to CNTL-2.

MENU DISPLAY CHART

Adjustments or settings preset at the factory are shown in the menus.
For PICTURE ADJUST MENU via remote control, see page 18.


MENU
Menu functions
ENTER
Memory-Mode programming
MEMORY MODE + MENU
MENU
Memory-Mode revision menu
ENTER
Memory-Mode picture adjustments
Memory-Mode revision
ENTER + MENU
Set-up for monitor installation
ENTER
RGB-signal picture size/positioning adjustments
ENTER
White-balance adjustments
ENTER
Remote-terminal settings
▼ + MENU
Menu-function resetting
▼ + MENU + POWER
"Initialize" menu
ENTER
ID-number programming
ENTER
Menu-function standardisation

```
        <MENU>
►ASPECT RATIO     :4-3
 FILTER SELECT    :COMB
 PEAKING FREQ.    :2.6MHZ
 PEAKING LEVEL    :0dB
 AFC              :NORMAL
 COLOR TEMP.      :6500
 NTSC SETUP       :0
 COMPO. LEVEL     :SMPTE
 <MEMORY MODE>
 RGB / COMPO(SDI) :RGB
```

```
MEMORY MODE

  Are you sure ?

 "Yes" then
 "No"  then   or
```

```
  <MEMORY MODE REVISE>
►PICTURE ADJUSTMENT
 ASPECT RATIO     :4-3
 FILTER SELECT    :COMB
 PEAKING FREQ.    :2.6MHZ
 PEAKING LEVEL    :0dB
 AFC              :NORMAL
 COLOR TEMP.      :6500
 NTSC SETUP       :0
 COMPO. LEVEL     :SMPTE
```

```
  MEMORY MODE REVISE
►CONTRAST         :0
 BRIGHT           :0
 CHROMA           :0
 PHASE            :0
```

```
MEMORY MODE REVISE

  Are you sure ?

 "Yes" then
 "No"  then   or
```

```
     <SET-UP MENU>
►SIZE/CENTERING
 WHITE BALANCE ADJUST
 REMOTE SELECT
 STATUS DISPLAY :ON
 CONTROL LOCK   :OFF
```

```
  SIZE/CENTERING
►H. POSITION      :0
 V. POSITION      :0
 H. SIZE          :0
 V. SIZE          :0
```

```
  WHITE BALANCE
►RED DRIVE        :0
 GREEN DRIVE      :0
 BLUE DRIVE       :0
 RED CUTOFF       :0
 GREEN CUTOFF     :0
 BLUE CUTOFF      :0
```

```
  REMOTE SELECT
► INPUT   :NOT USE
  CNTL-1  :NOT USE
  CNTL-2  :NOT USE
```

```
MENU RESET

  Are you sure ?

 "Yes" then
 "No"  then   or
```

```
  <INITIALIZE MENU>
►ID NUMBER SET
 <SET-UP MENU RESET
```

```
ID NUMBER SET

     00
```

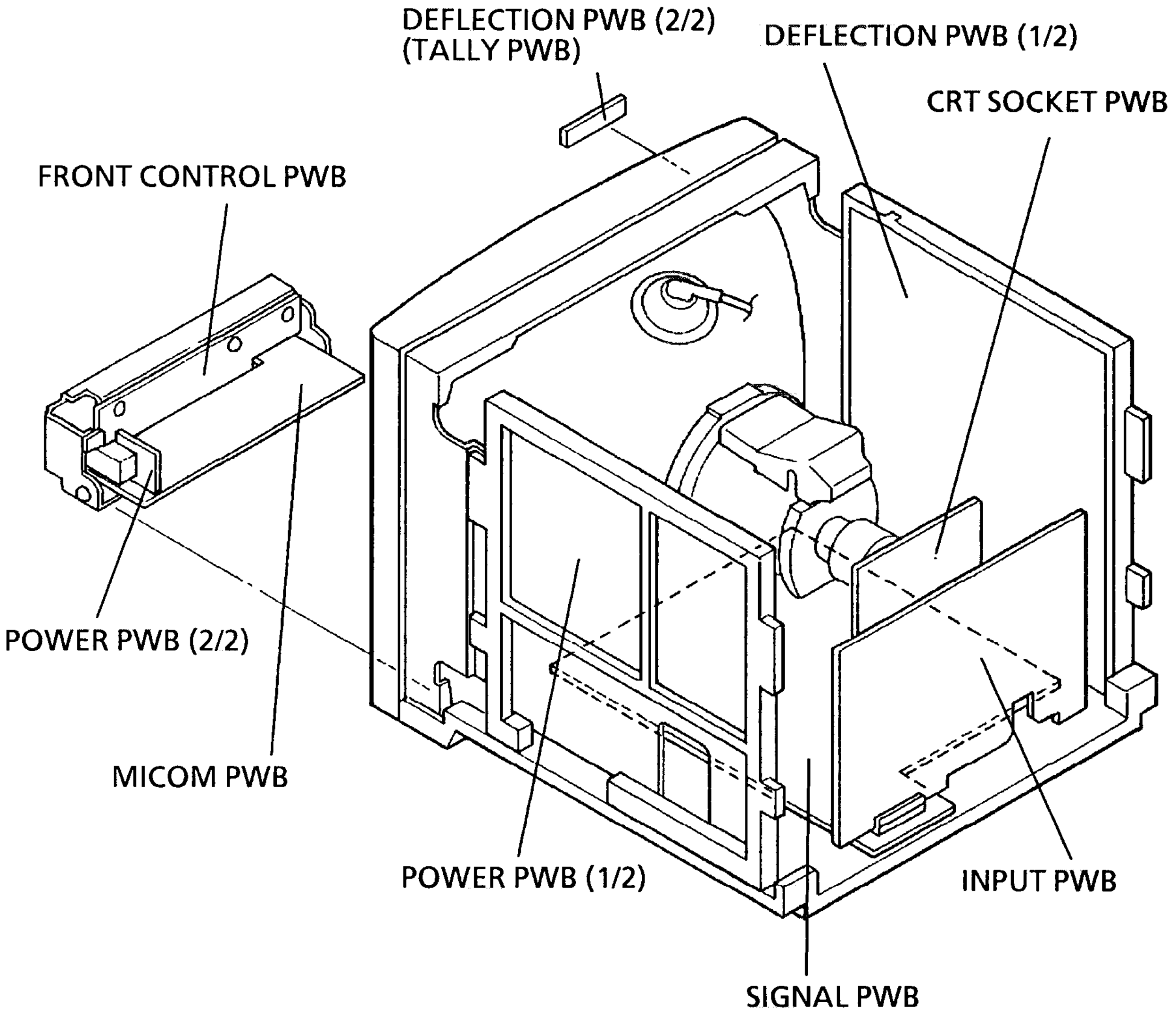
```
SET-UP MENU RESET

  Are you sure ?

 "Yes" then
 "No"  then   or
```

SPECIFICATIONS

Type	: Colour video monitor
Colour systems	: NTSC 3.58 MHz, NTSC 4.43MHz, PAL
Picture tube	: [BM-H2000PN] 50 cm diagonally measured, 90°deflection, in-line gun, medium-high-definition cathode-ray tube, trio-dot type (dot pitch of 0.4 mm), EBU standard phosphor : [BM-H1400PN] 36 cm diagonally measured, 90°deflection, in-line gun, high-definition tinted cathode-ray tube, trio-dot type (dot pitch of 0.28 mm), EBU standard phosphor : [BM-1400PN-A] 36 cm diagonally measured, 90°deflection, in-line gun, medium-high-definition tinted cathode-ray tube, trio-dot type (dot pitch of 0.39 mm), P-22 phosphor
Screen size (WxH)	: 399 x 298 mm [BM-H2000PN] 280 x 210 mm [BM-H1400PN /BM-1400PN-A]
Scanning frequency	: H: 15.734 kHz (NTSC 3.58/4.43 MHz) 15.625 kHz (PAL) V: 59.94 Hz (NTSC 3.58/4.43MHz) 50 Hz (PAL)
Horizontal resolution	: 750 TV lines or more [BM-H2000PN /BM-H1400PN] 620 TV lines or more [BM-1400PN-A]
Colour temperature	: 6500K; x = 0.313, y = 0.329 9300K; x = 0.283, y = 0.297 (selectable)
Video inputs	: Composite video INPUT A, B (2 lines), BNC x 2 each (with 1 bridge-connected output) Termination switches provided 1.0 V p-p, 75Ω, negative sync : Y/C Y/C (1 line), Mini-DIN (4-pin) x 2 (with 1 bridge-connected output) Termination switch provided Y: 1.0 V p-p, 75Ω, negative sync C (NTSC 3.58/4.43 MHz): 0.286 Vp-p, 75Ω C (PAL): 0.3 V p-p, 75Ω : Analogue RGB RGB/COMPO(SDI) (1 line: common with Y, R-Y, B-Y, component), BNC x 6 (with 3 bridge-connected outputs) Termination switches provided R,B: 0.7 V p-p, 75Ω G: 0.7 V p-p, 75Ω G on sync: 1.0 V p-p, 75Ω, negative sync : Y, R-Y, B-Y component RGB/COMPO(SDI) (1 line: common with analogue RGB) Y: 1.0 V p-p, 75Ω, negative sync R-Y, B-Y: 0.7 V p-p, 75Ω
External sync inputs	: SYNC (1 line), BNC x 2 (with 1 bridge-connected output) 0.2 – 4.0 V p-p composite sync, 75Ω, negative sync Termination switch provided
Audio inputs	: AUDIO A, B, RGB/COMPO(SDI) (3 lines), RCA x 2 each (with 1 bridge-connected output) 500 mV rms, high impedance
Tally/remote terminal	: TALLY/REMOTE, DIN (8-pin) x 1
Audio power output	: 1.6 W [BM-H2000PN] 0.8 W [BM-H1400PN/BM-1400PN-A]
Built-in speaker	: 9 x 5 cm oval x 1
Operation temperature	: 0 – 40°C (20 – 80% RH)
Power requirements	: 230 V AC, 50/60 Hz
Power consumption	: 0.6 A [BM-H2000PN/BM-H1400PN] 0.7 A [BM-1400PN-A]
Dimensions (WxHxD)	: 449 x 431 x 511 mm [BM-H2000PN] 346 x 332 x 410 mm [BM-H1400PN /BM-1400PN-A]
Weight	: 30 kg [BM-H2000PN] 16.2 kg [BM-H1400PN/BM-1400PN-A]
Provided accessory	: Power cord x 1

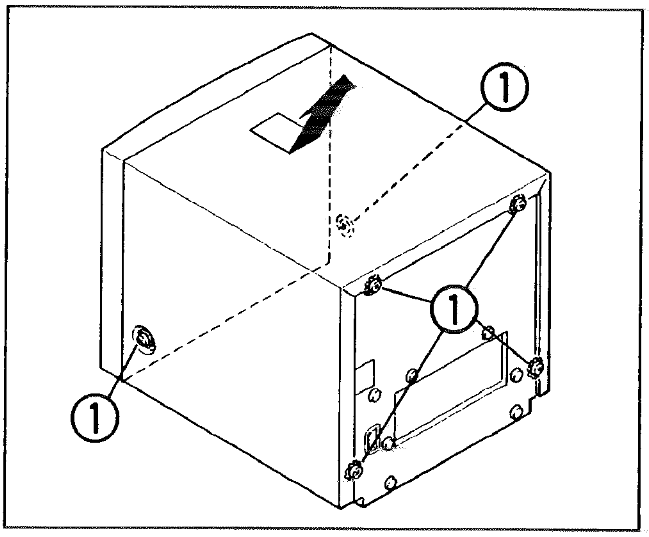
Optional accessories	: Wireless remote control unit • RM-C550W Rack-mount adapter • RK-20E [BM-H2000PN] • RK-1400E [BM-H1400PN /BM-1400PN-A] Digital interface unit • IF-C2000SDE

MAIN PARTS LOCATION


DEFLECTION PWB (2/2)
(TALLY PWB)
DEFLECTION PWB (1/2)
CRT SOCKET PWB
FRONT CONTROL PWB
POWER PWB (2/2)
MICOM PWB
POWER PWB (1/2)
INPUT PWB
SIGNAL PWB

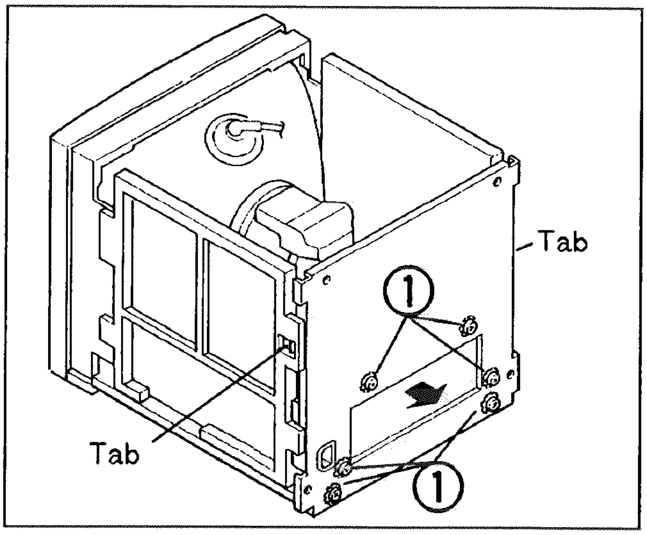
SPECIFIC SERVICE INSTRUCTIONS

DISASSEMBLY PROCEDURE



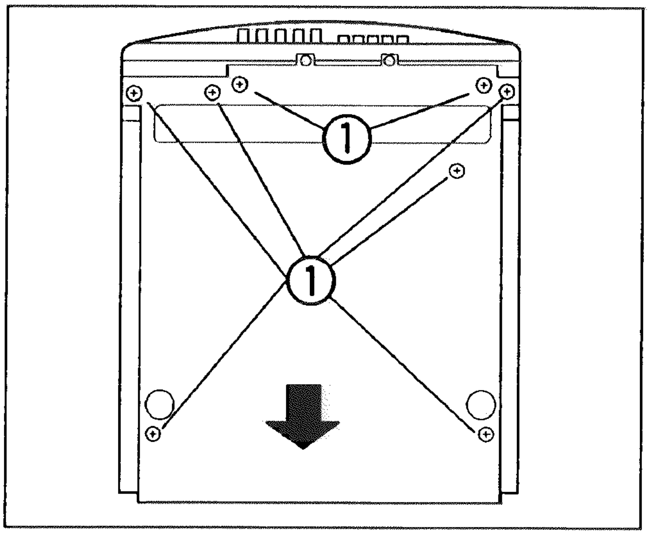
■ TOP COVER

1. Take out 6 screws ①
2. Slightly spread the bottom of the cover, shift it rearward, then raise the cover to remove it.



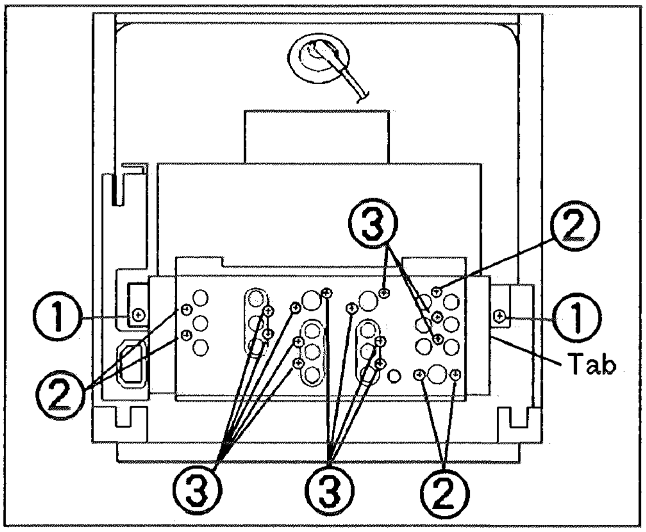
■ REAR PANEL

1. Remove the top cover.
2. Take out 6 screws ①.
3. Press the tabs at both edges and remove the rear panel in the direction indicated by the arrow.



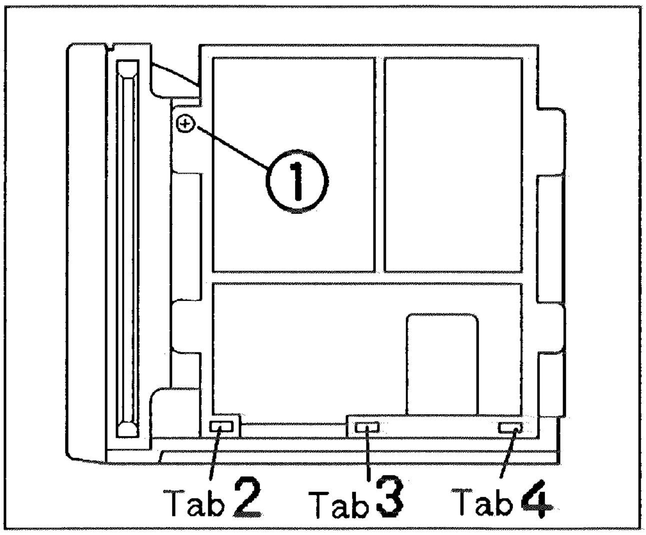
■ BOTTOM COVER

1. Remove the top cover and rear panel.
2. Take out 8 screws ①.
3. Slightly raise the bottom cover and remove it in the direction indicated by the arrow.



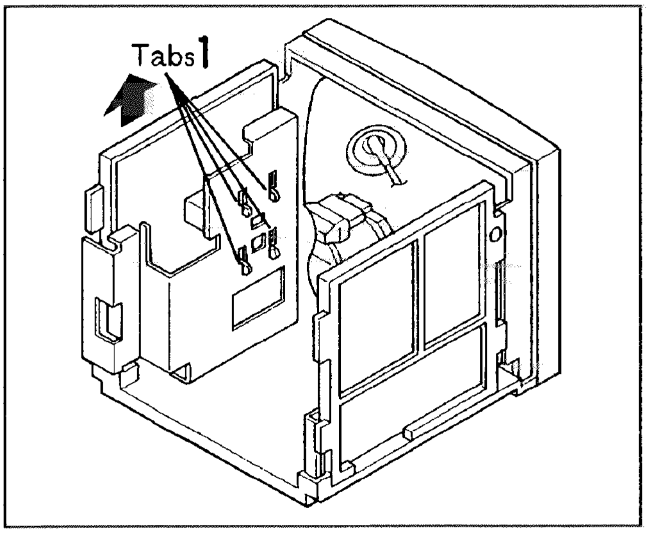
INPUT PWB, TERMINAL SHEET AND TERMINAL BRACKET

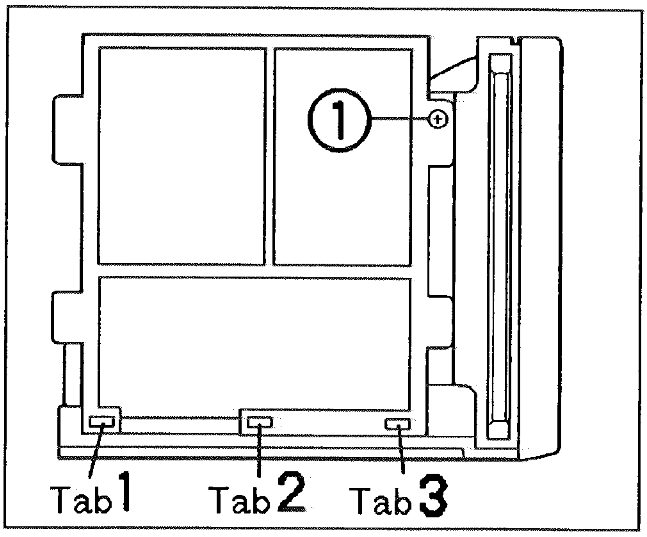
1. Remove the top cover and rear panel.
2. Take out 2 screws ①.
3. While pressing the bottom SIGNAL PWB, pull the INPUT PWB upward to remove it. Carefully engage it with the tab to allow powered checks.
4. Take out 5 screws ② and remove the terminal sheet.
5. Take out 12 screws ③ and remove the terminal bracket.



POWER PWB

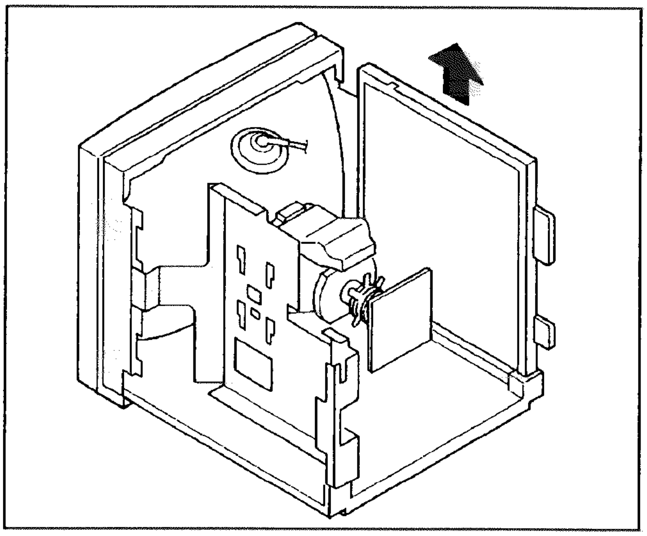
1. Remove the top cover and rear panel.
2. Take out 1 screw ①.
3. While sliding 4 tabs 1, raise the PWB.
4. Insert a screwdriver or similar tool and disengage tabs 2, 3 and 4, then remove the POWER SUPPLY PWB.

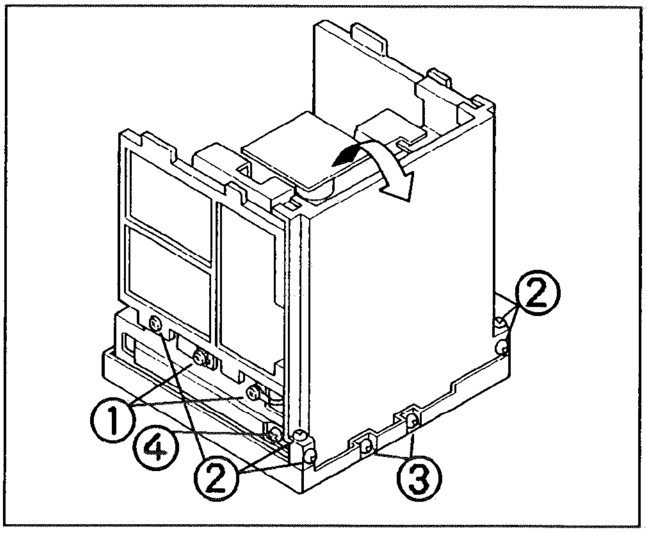




DEFLECTION PWB

1. Remove the top cover and rear panel.
2. Take out 1 screw ①.
3. While raising the DEFLECTION PWB, insert a screwdriver or similar tool and disengage tabs 1, 2 and 3, then remove the DEFLECTION PWB.

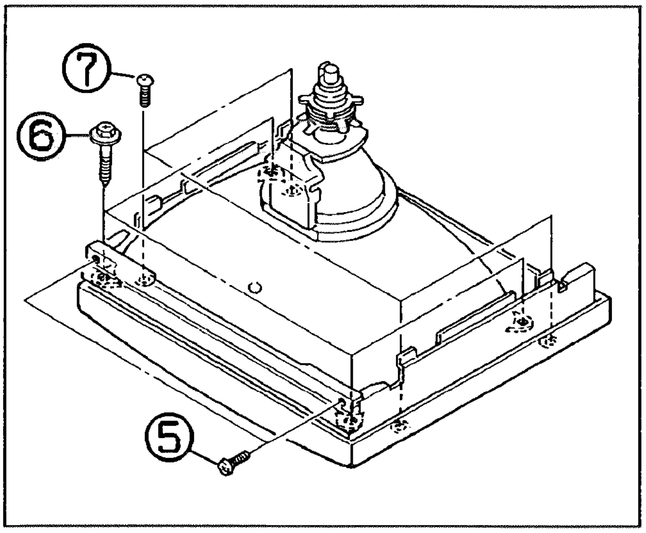




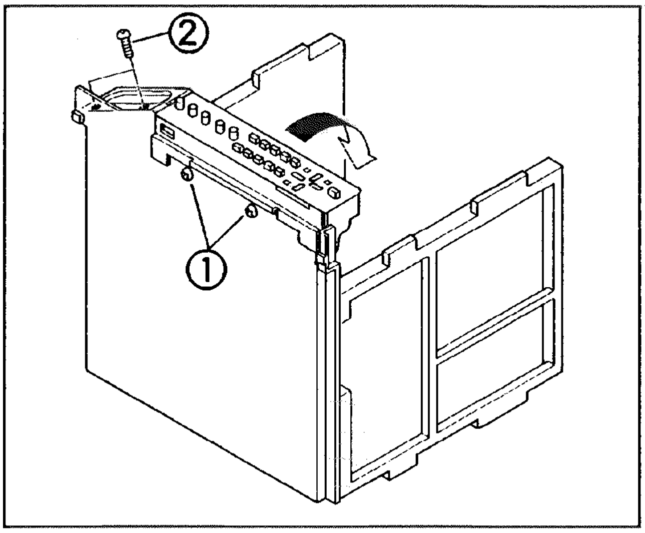
CRT

1. Remove the top cover and rear panel.
2. Take out 2 screws ①, 6 screws ②, 2 screws ③ and 1 screw ④.
3. Remove the CRT SOCKET PWB , anode cap and DY wire , Tally wire Degauss coil wire. Tilt the chassis in the direction indicated by the arrow and remove it.

Note: Use a cushion to avoid scratching the CRT face.

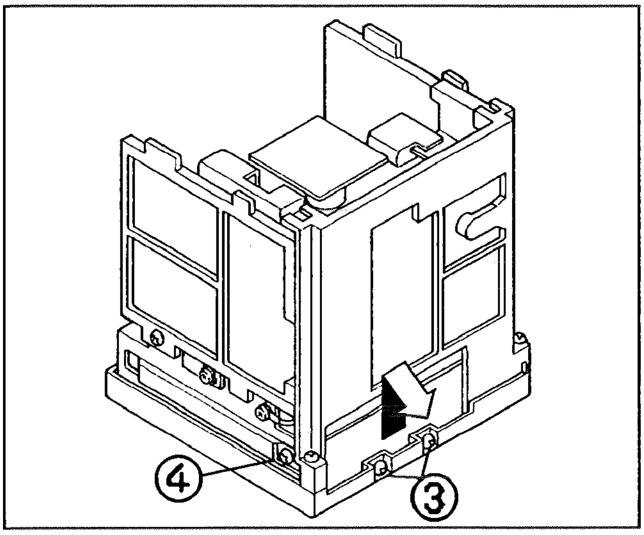


4. Take out 2 screws ⑤ and remove the top beam.
5. Take out 4 screws ⑦ and remove the left and right CRT side shields.
6. Take out 4 screws ⑥ and remove the CRT.



■ FRONT CONTROL BRACKET AND SPEAKER

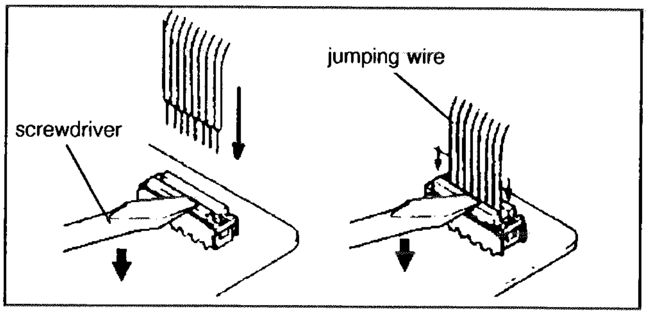
1. Remove the top cover and rear panel, and disengage the chassis.
2. Take out 2 screws ① and remove the front control panel bracket (including the MICOM PWB).
3. Take out 2 screws ② and remove the speaker.

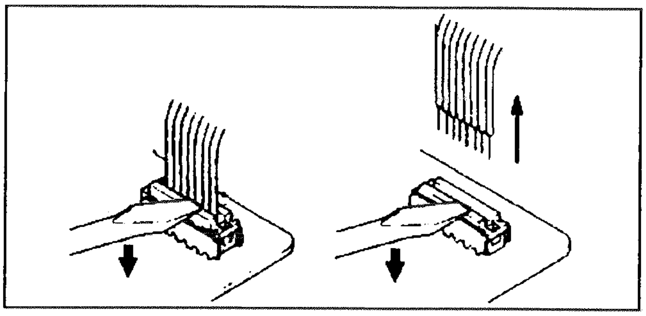


● The front control bracket can be removed without removing the chassis.

1. Remove the bottom cover and take out 2 screws ③ and 1 screw ④.
2. Disengage the power switch connector.
3. While raising the front control bracket, remove it outward. Use care not to snag the volume knob with the front panel.

Note:Work is easier with the set upside down.





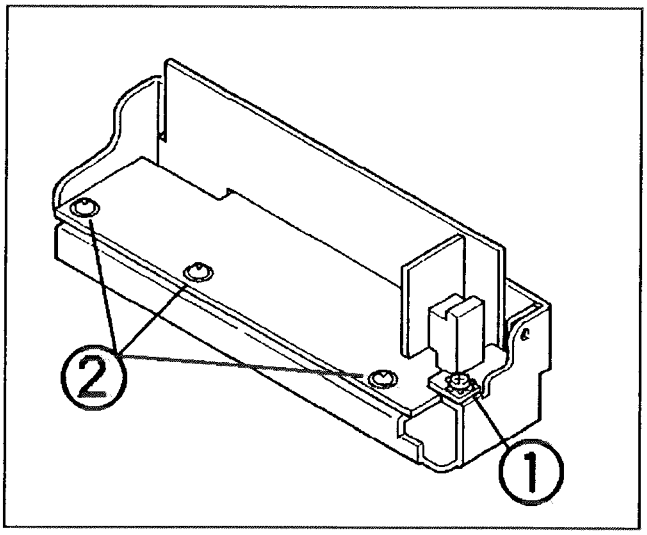
- **MICOM - SIGNAL PWB jump wires**

Connection

1. Check that the ends of the jump wires are straight and aligned.
2. Use a screwdriver or similar tool to press the portion of the connector labelled Push.(In practice, the wires can be inserted without pressing.)
3. Align the ends of the jump wire with the respective holes of the connector and insert vertically.

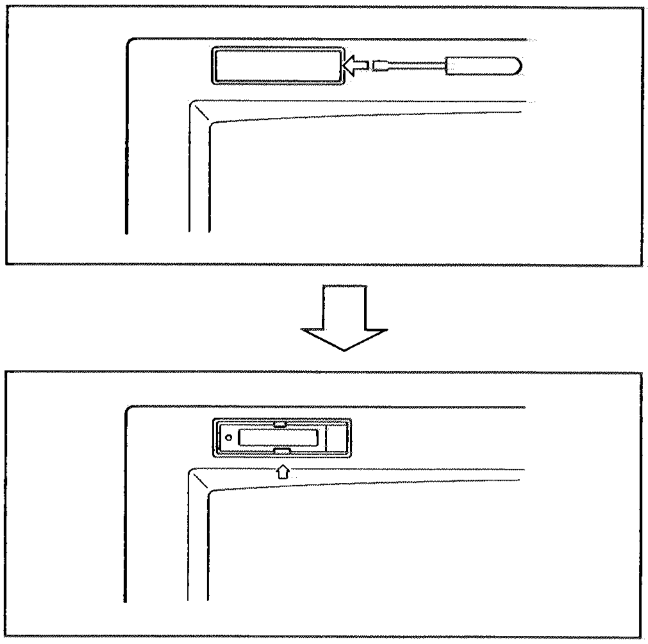
Disconnection

1. Use a screwdriver or similar tool to press the portion of the connector labelled Push.
2. While holding the connector depressed, pull the wires upward to disconnect them.



■ POWER SWITCH, FRONT CONTROL PWB AND MICOM PWB

1. Remove the front control bracket (including MICOM PWB).
2. Take out 1 screw ① and remove the power switch.
3. Take out 3 screws ② and remove the FRONT CONTROL PWB and MICOM PWB.
4. Disengage the PWB connectors.



■ DEFLECTION PWB (TALLY PWB)

1. While using care not to scratch the front panel, insert a flat blade screwdriver into the edge of the tally cover and remove the cover.
2. Since the TALLY PWB appears, press the top and bottom tabs downward with the screwdriver.
3. Pull the PWB downward to tilt and remove the PWB.

REPLACEMENT OF CHIP COMPONENT

■CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

■SOLDERING IRON

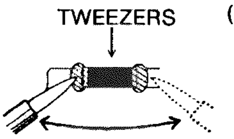
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

■REPLACEMENT STEPS

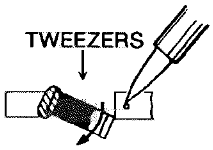
1. How to remove Chip parts

- Resistors, capacitors, etc

(1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.

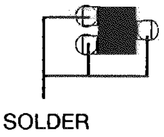


(2) Shift with tweezers and remove the chip part.

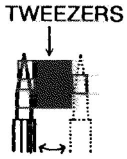


- Transistors, diodes, variable resistors, etc

(1) Apply extra solder to each lead.



(2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.

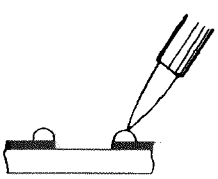


Note: After removing the part, remove remaining solder from the pattern.

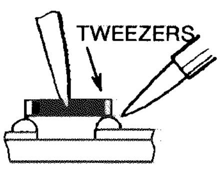
2. How to install Chip parts

- Resistors, capacitors, etc

(1) Apply solder to the pattern as indicated in the figure.



(2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

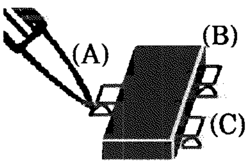


- Transistors, diodes, variable resistors, etc

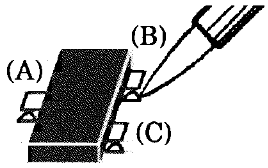
(1) Apply solder to the pattern as indicated in the figure.

(2) Grasp the chip part with tweezers and place it on the solder.

(3) First solder lead A as indicated in the figure.



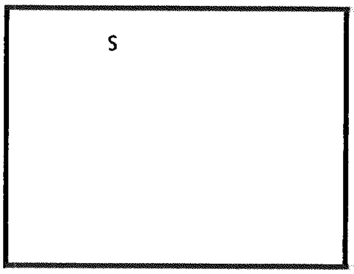
(4) Then solder leads B and C.

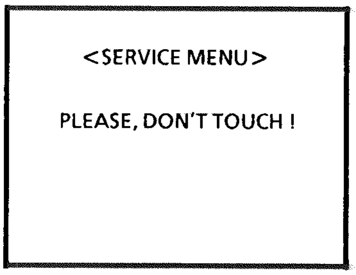


SERVICE MENU ENTRY

- If the separately sold remote controller (RM-C550W) is available, this can be used for adjustments. Normally, perform adjustments using the set front control panel.

1. While holding ENTER depressed, press DEGAUSS.
2. The letter S appears at the upper left of the screen.
3. While holding ENTER depressed, press MENU.
4. The screen display changes to <SERVICE MENU> PLEASE, DON'T TOUCH!
5. Press the left [←] or right arrow [→] to display the SERVICE MENU.
   If Step 4 state continues for more than 5 seconds without a further operation, the display extinguishes and the mode is released.


S

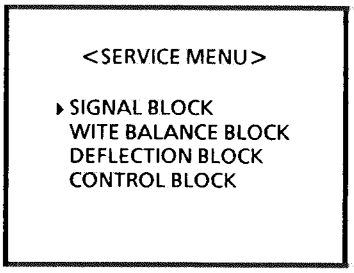

<SERVICE MENU>

PLEASE, DON'T TOUCH !

ITEM SELECTION

- While the SERVICE MAIN MENU is displayed:

1. Press the up [↑] or down arrow [↓] to select the item.
2. After selecting the item, press ENTER.
3. The adjustment mode menu is displayed.


<SERVICE MENU>

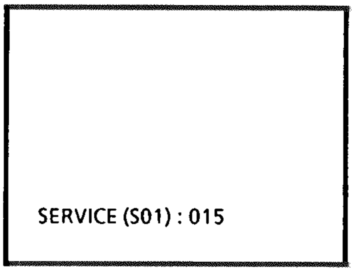
▸ SIGNAL BLOCK
WITE BALANCE BLOCK
DEFLECTION BLOCK
CONTROL BLOCK

SERVICE MAIN MENU

SETTING VALUE CHANGE

- While the adjustment mode menu is displayed:

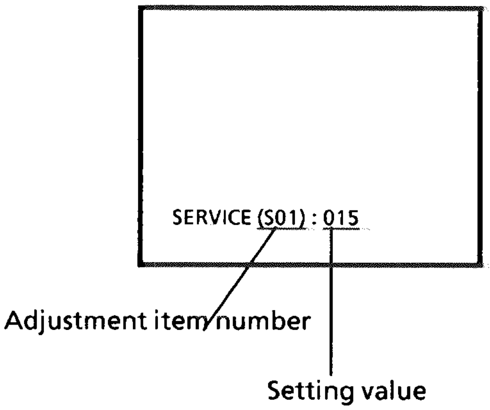
1. Press the right arrow [→] to change the setting value in the + direction.
2. Press the left arrow [←] to change the setting value in the - direction.
3. Press the up [↑] or down arrow [↓] to change the adjustment item number.


SERVICE (S01) : 015

ADJUSTMENT MODE MENU

SERVICE MENU EXIT

1. When settings are completed, press MENU.
2. The SERVICE MAIN MENU returns.
3. Again press MENU.
4. The screen display extinguishes and the service mode is exited.


SERVICE (S01) : 015

■ SIGNAL SYSTEM SETTINGS

No.	Input	Signal	Item	Data type	Variable range	Initial value
S01			Bright	Standard value	0~63	15
S02	Video	NTSC	Chroma	Standard value	0~63	32
S03	Video	NTSC	Phase	Standard value	0~63	32
S04	Video	NTSC	Contrast	Standard value	0~63	32
S05	Video	PAL	Chroma	Standard value	0~63	32
S06	Video	PAL	Contrast	Standard value	0~63	32
S07	Video Y/C	N443	Phase	Standard value	0~63	32
S08	Y/C	NTSC	Chroma	Standard value	0~63	32
S09	Y/C	NTSC	Phase	Standard value	0~63	32
S10	Y/C	NTSC PAL N443	Contrast	Standard value	0~63	32
S11	Y/C	PAL	Chroma	Standard value	0~63	32
S12	Color difference	N10/ SMPTE	Chroma	Standard value	0~63	32
S13	Color difference		Contrast	Standard value	0~63	32
S14	RGB		Contrast	Standard value	0~63	32
S15	Video	N443	Chroma	Correction value	0~255	3
S16	Y/C	N443	Chroma	Correction value	0~255	3
S17	Color difference	BETA	Chroma	Correction value	0~255	247
S18			Bright →pulse cross	Correction value	0~255	20
S19			Contrast →pulse cross	Correction value	0~255	236
S20			Bright →underscan	Correction value	0~255	0
S21			Contrast →underscan	Correction value	0~255	252
S22			Bright →16 : 9	Correction value	0~255	0
S23			Contrast →16 : 9	Correction value	0~255	250
S24	Video	SECAM	Chroma	Standard value	0~63	32
S25	Video	SECAM	Contrast	Standard value	0~63	32
S26	Y/C	SECAM	Chroma	Standard value	0~63	32

No.	Input	Signal	Item	Data type	Variable range	Initial value
S27	Y/C	SECAM	Contrast	Standard value	0~63	32
S28			Peak Drive Limit	Fixed value	0~255	45
S29			Control Reg - 1	Fixed value	0~255	193
S30			Control Reg - 2	Fixed value	0~255	0
S31	Video	NTSC,B/W 60	Y Delay	Fixed value	0~255	65
S32	Y/C	NTSC,B/W 60	Y Delay	Fixed value	0~255	73
S33	Video	PAL,B/W 50	Y Delay	Fixed value	0~255	82
S34	Y/C	PAL,B/W 50	Y Delay	Fixed value	0~255	82
S35	Video	N443	Y Delay	Fixed value	0~255	82
S36	Y/C	N443	Y Delay	Fixed value	0~255	82
S37	Video	SECAM	Y Delay	Fixed value	0~255	82
S38	Y/C	SECAM	Y Delay	Fixed value	0~255	82
S39	Color difference		Y Delay	Fixed value	0~255	64

■ WHITE BALANCE SETTINGS

No.	Color temperature	Scan	Item	Data type	Variable range	Initial value
W01	9300	Normal	R - Cutoff	Standard value	0~63	37
W02	9300	Normal	G - Cutoff	Standard value	0~63	25
W03	9300	Normal	B - Cutoff	Standard value	0~63	23
W04	9300	Normal	R - Drive	Standard value	0~63	34
W05	9300	Normal	G - Drive	Standard value	0~63	32
W06	9300	Normal	B - Drive	Standard value	0~63	30
W07	6500	Normal	R - Cutoff	Standard value	0~63	48
W08	6500	Normal	G - Cutoff	Standard value	0~63	25
W09	6500	Normal	B - Cutoff	Standard value	0~63	12
W10	6500	Normal	R - Drive	Standard value	0~63	37
W11	6500	Normal	G - Drive	Standard value	0~63	32
W12	6500	Normal	B - Drive	Standard value	0~63	24

No.	Color temperature	Scan	Item	Data type	Variable range	Initial value
W13	3200	Normal	R - Cutoff	Standard value	0~63	Not used(32)
W14	3200	Normal	G - Cutoff	Standard value	0~63	Not used(32)
W15	3200	Normal	B - Cutoff	Standard value	0~63	Not used(32)
W16	3200	Normal	R - Drive	Standard value	0~63	Not used(32)
W17	3200	Normal	G - Drive	Standard value	0~63	Not used(32)
W18	3200	Normal	B - Drive	Standard value	0~63	Not used(32)
W19		Under	R - Cutoff	Correction value	0~255	0
W20		Under	G - Cutoff	Correction value	0~255	0
W21		Under	B - Cutoff	Correction value	0~255	0
W22		Under	R - Drive	Correction value	0~255	0
W23		Under	G - Drive	Correction value	0~255	0
W24		Under	B - Drive	Correction value	0~255	0
W25		16 : 9	R - Cutoff	Correction value	0~255	0
W26		16 : 9	G - Cutoff	Correction value	0~255	0
W27		16 : 9	B - Cutoff	Correction value	0~255	0
W28		16 : 9	R - Drive	Correction value	0~255	0
W29		16 : 9	G - Drive	Correction value	0~255	0
W30		16 : 9	B - Drive	Correction value	0~255	0

■ DEFLECTION SYSTEM SETTINGS

No.	Scan	Input	V. frequency	Item	Variable range	Initial value
D01	Normal	Video	60Hz	V-Size →Standard value	0~63	38
D02	Normal	Video	60Hz	V-Shift →Standard value	0~63	32
D03	Normal	Video	60Hz	V-Linearity →Standard value	0~15	7
D04	Normal	Video	60Hz	S-Correction →Standard value	0~15	15
D05	Normal	Video	60Hz	H-Size →Standard value	0~63	26
D06	Normal	Video	60Hz	H-Shift →Standard value	0~63	32
D07	Normal	Video	60Hz	Pin-AMP →Standard value	0~63	41
D08	Normal	Video	50Hz/60Hz	HV-COMP-V →Standard value	0~7	7
D09	Normal	Video	50Hz/60Hz	HV-COMP-H →Standard value	0~7	0
D10	Normal	Video	50Hz	V-Size →Standard value	0~255	40
D11	Normal	Video	50Hz	V-Shift →Standard value	0~255	29
D12	Normal	Video	50Hz	V-Linearity →Standard value	0~255	8
D13	Normal	Video	50Hz	S-Correction →Standard value	0~255	15
D14	Normal	Video	50Hz	H-Size →Standard value	0~255	29
D15	Normal	Video	50Hz	H-Shift →Standard value	0~255	32
D16	Normal	Video	50Hz	Pin-AMP →Standard value	0~255	40
D17	Under	Video	50Hz/60Hz	V-Size →Correction value	0~255	230
D18	Under	Video	50Hz/60Hz	V-Shift →Correction value	0~255	0
D19	Under	Video	50Hz/60Hz	V-Linearity →Correction value	0~255	0
D20	Under	Video	50Hz/60Hz	S-Correction →Correction value	0~255	0
D21	Under	Video	50Hz/60Hz	H-Size →Correction value	0~255	0
D22	Under	Video	50Hz/60Hz	H-Shift →Correction value	0~255	0
D23	Under	Video	50Hz/60Hz	Pin-AMP →Correction value	0~255	2
D24	Under	Video	50Hz/60Hz	HV-COMP-V →Correction value	0~255	0
D25	Under	Video	50Hz/60Hz	HV-COMP-H →Correction value	0~255	0
D26	16 : 9	Video	50Hz/60Hz	V-Size →Correction value	0~255	0
D27	16 : 9	Video	50Hz/60Hz	V-Shift →Correction value	0~255	0
D28	16 : 9	Video	50Hz/60Hz	V-Linearity →Correction value	0~255	0
D29	16 : 9	Video	50Hz/60Hz	S-Correction →Correction value	0~255	0
D30	16 : 9	Video	50Hz/60Hz	H-Size →Correction value	0~255	0

No.	Scan	Input	V. frequency	Item	Variable range	Initial value
D31	16 : 9	Video	50Hz/60Hz	H-Shift →Correction value	0~255	0
D32	16 : 9	Video	50Hz/60Hz	Pin-AMP →Correction value	0~255	0
D33		RGB	60Hz	V-Shift →Correction value	0~255	0
D34		RGB	60Hz	H-Shift →Correction value	0~255	0
D35		RGB	50Hz	V-Shift →Correction value	0~255	0
D36		RGB	50Hz	H-Shift →Correction value	0~255	0
D37	Pulse Cross		50Hz/60Hz	V-Shift →Correction value	0~255	0
D38	Pulse Cross		50Hz/60Hz	H-Shift →Correction value	0~255	0
D39	External SYNC		50Hz/60Hz	V-Shift →Correction value	0~255	0
D40	External SYNC		50Hz/60Hz	H-Shift →Correction value	0~255	0
D41	TILT		50Hz/60Hz	TILT →Fixed value	0~255	16
D42	U/L Cornner Pin		50Hz/60Hz	U/L CORNER PIN →Fixed value	0~255	255
D43	V-BOW/V-ANGLE		50Hz/60Hz	V-BOW/V-ANGLE →Fixed value	0~255	136

■Control system setting

No.	Item	Variable range	Initial value	Remarks
C01	MENU select. Default	0~255	1	MENU (COLOR TEMPERATURE, SETUP LEVEL) 1. EUROPE 2. JAPAN 3. US
C02	Menu display time	0~255	0	Menu display time 0: extinguish after 5 minutes, 1: continuous
C03	OSDC Color	0~255	7	On-screen color setting, power off/on needed after changing (see table next page)
C04	OSDC H.Position	0~255	5	On-screen H. position 0 - 15
C05	OSDC V.Position (60Hz)	0~255	1	On-screen V. position (60 Hz) 0 - 15
C06	OSDC V.Position (50Hz)	0~255	2	On-screen V. position (50 Hz) 0 - 15
C07	Bright Data to MAX	0~255	20	Effective brightness range from center detent to maximum
C08	Bright Data to MIN	0~255	20	Effective brightness range from center detent to minimum

No.	Item	Variable range	Initial value	Remarks
C09	Chroma Data to MAX	0~255	30	Effective chroma range from center detent to maximum
C10	Chroma Data to MIN	0~255	50	Effective chroma range from center detent to minimum
C11	Contrast Data to MAX	0~255	20	Effective contrast range from center detent to maximum
C12	Contrast Data to MIN	0~255	20	Effective contrast range from center detent to minimum
C13	Phase Data to MAX	0~255	30	Effective phase range from center detent to maximum
C14	Phase Data to MIN	0~255	30	Effective phase range from center detent to minimum
C15	Signal	0~255	10	Signal Status display check time
C16	System detect	0~255	0	0: automatic, 1: 3.58 MHz, 2: 4.43 MHz

No.	On-screen color setting data	No.	On-screen color setting data
129	Blue	0	Black (darkens during blue check)
130	Green	1	Black (brightens during blue check)
131	Aqua	2	Green (darkens during blue check)
132	Red	3	Green (brightens during blue check)
133	Magenta	4	Red (darkens during blue check)
134	Yellow	5	Red (brightens during blue check)
135	White	6	Orange (darkens during blue check)
136	Black	7	Orange (brightens during blue check)

SET-UP MENU ENTRY

- If the separately sold remote controller (RM-C550W) is available, this can be used for adjustments. Normally, perform adjustments using the set front control panel.

1. While holding ENTER depressed, press MENU.
2. The SET-UP MENU is displayed on the screen.

ITEM SELECTION

■ SIZE/CENTERING, WHITE BALANCE ADJUST, REMOTE SELECT

- SIZE / CENTERING items are displayed only when RGB input is selected.

1. Press the up [↑] or down arrow [↓] to select SIZE / CENTERING items.
2. After selecting the item, press ENTER.
3. The adjustment mode menu is displayed.
4. Again press ENTER to display the adjustment mode sub-menu for each adjustment item (select adjustment item with up [↑] or down arrow [↓]).
5. Press MENU to display the original adjustment mode menu.
6. Perform in the same manner for White balance adjust and Remote select.

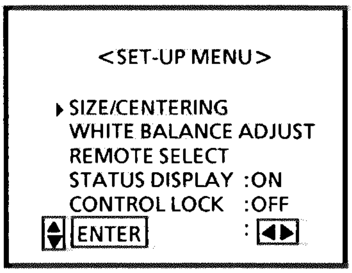
■ STATUS DISPLAY

1. Press the up [↑] or down arrow [↓] to select the status display items.
2. Press the left [←] or right arrow [→] to select on/off.

■ CONTROL LOCK

- Except for sound volume, all control operations are inhibited from the front control buttons, Phase, Chroma, Bright and Contrast controls, and the remote controller (sound volume remains operational).

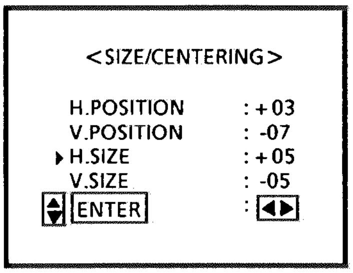
1. Press the up [↑] or down arrow [↓] to select Control Lock.
2. Press the left [←] or right arrow [→] to select on/off.
3. The status just prior to selecting On is held and after exiting the SET-UP MAIN MENU, control adjustment is inhibited.
4. To release the CONTROL LOCK, press ENTER and MENU to display the set-up main menu, then set CONTROL LOCK to off.



STATUS DISPLAY :ON

CONTROL LOCK :OFF

SET-UP MAIN MENU



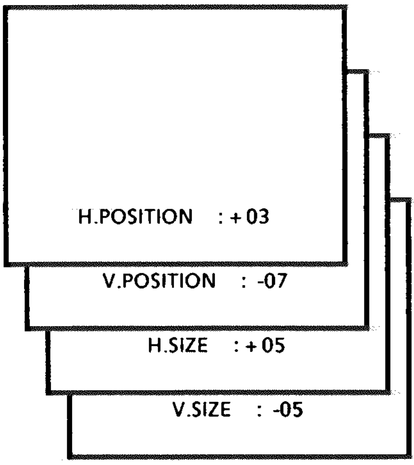
H.POSITION : +03

V.POSITION : -07

▸ H.SIZE : +05

V.SIZE : -05

ADJUSTMENT MODE MENU



H.POSITION : +03

V.POSITION : -07

H.SIZE : +05

V.SIZE : -05

ADJUSTMENT MODE SUB-MENU

H.SIZE→V.SIZE→H.POSITION→V.POSITION

SETTING VALUE CHANGE

- Set for displaying the adjustment mode menu or the adjustment mode sub-menu.

1. Press the right arrow [→] to change the adjustment value in the + direction.
2. Press the left arrow [←] to change the adjustment value in the - direction.
3. Press the up [↑] or down arrow [↓] to change the adjustment item.
4. Press MENU to return the SET-UP MAIN MENU. (At the adjustment mode sub-menu, again press MENU.)

SET-UP MENU EXIT

1. When settings are complete, press MENU.
2. The screen display extinguishes and the SET-UP MENU is exited.

SET-UP MENU CHECKS

■ WHITE BALANCE

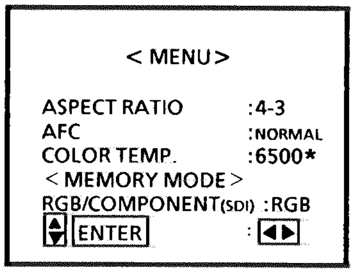
To check if adjustment has changed:

1. Press MENU to display the user main menu.
2. If an asterisk (*) appears at the Color Temp. item, the setting has been changed.

■ SET-UP MENU INITIALIZE

To return changed SIZE/CENTERING and WHITE BALANCE Adjust to original status (initialize);

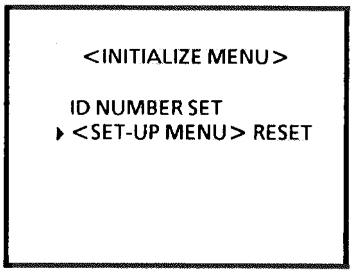
1. Hold the mainframe down arrow [↓] and MENU depressed, and set power on (inoperable from remote controller).
2. The initialize menu is displayed (hold depressed until menu appears).
3. Select SET-UP MENU RESET and press ENTER.
4. The SET-UP RESET MENU is displayed.
5. Press ENTER to return the standard settings. Note that Remote Elect, Status Display and CONTROL LOCK are initialized and ID No. is cleared to 0.



< MENU >

ASPECT RATIO :4-3
AFC :NORMAL
COLOR TEMP. :6500*
< MEMORY MODE >
RGB/COMPONENT(SDI) :RGB

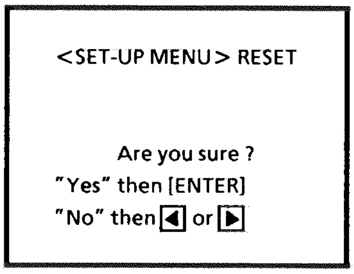
USER MAIN MENU



<INITIALIZE MENU>

ID NUMBER SET
▸ <SET-UP MENU> RESET

INITIALIZE MENU



<SET-UP MENU> RESET

Are you sure ?
"Yes" then [ENTER]
"No" then ◀ or ▶

SET-UP RESET MENU

MEMORY IC REPLACEMENT NOTES

This model uses non-volatile memory ICs. When these are replaced, the data must be reset.
Video and deflection system data are stored in MEMORY IC. If this is replaced without entering the data, a normal picture will not be obtained. When replacing, be sure to use an IC containing the (initial value) data.

■ SET-UP MENU RECORD

Press MENU and at the menu display, check if an asterisk (*) appears after Color Temp. If the asterisk appears, the user has set the values according to personal preference. To the extent possible, make a memo of the setting values before replacing the IC.

■ IC REPLACEMENT STEPS

1. To the extent possible, make a memo of the SET-UP MENU and adjustment mode menu contents.
2. Switch off the power and disconnect the power cord from the outlet.
3. Replace the MEMORY IC.
4. Reconnect the power cord to the outlet and switch power on.
5. Refer to the memo and enter the setting values.
6. Perform adjustments according to the adjustment items.

SERVICE ADJUSTMENTS

PRIOR TO STARTING ADJUSTMENT

1. Supply power to the set and measuring instruments and allow to warm up for at least 30 minutes.
2. Confirm the proper AC power voltage is being supplied.
3. Use care not to disturb controls and switches not mentioned in the adjustment items.
4. Refer to adjustment settings and set user operated controls (BRIGHT, CONTRAST, PHASE, CHROMA, etc.) to the indicated positions.

TOOLS AND FIXTURES FOR ADJUSTMENT

● DC voltmeter (digital voltmeter)	
● Oscilloscope	
● Signal generator (PAL/NTSC systems)	
Color bar and split color bar patterns	
Crosshatch pattern	
Cross pattern	
Red raster pattern	
Green raster pattern	
Blue raster pattern	
Philips pattern (including R-Y and B-Y)	Desirable
TV resolution pattern	Desirable
● Remote control unit (RM-C550W)	Adjustments easier if available
● Color analyzer	Desirable
● High voltage meter	Desirable

ADJUSTMENT SETTINGS

1. Front controls

PHASE	Detent
CHROMA	Detent
BRIGHT	Detent
CONTRAST	Detent
VOLUME	MIN

2. Front switches

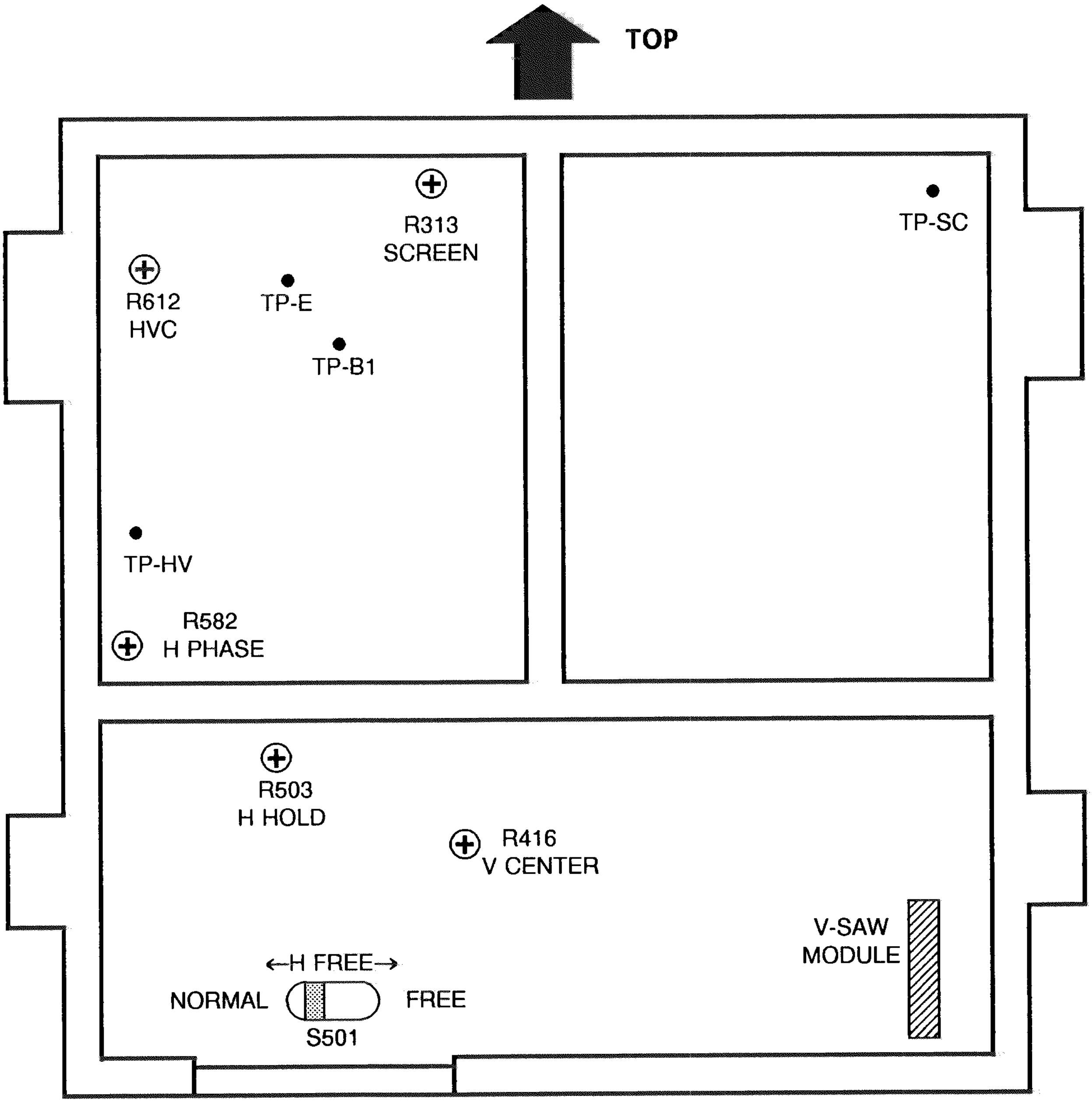
INPUT SELECT	VIDEO A	
EXT SYNC	INT	Switched not depressed
UNDER SCAN	OVER	〃
PULSE CROSS	OFF	〃
COLOR OFF	COLOR	〃
BLUE CHECK	OFF	〃
MEMORY MODE	OFF	〃

3. Menu screen

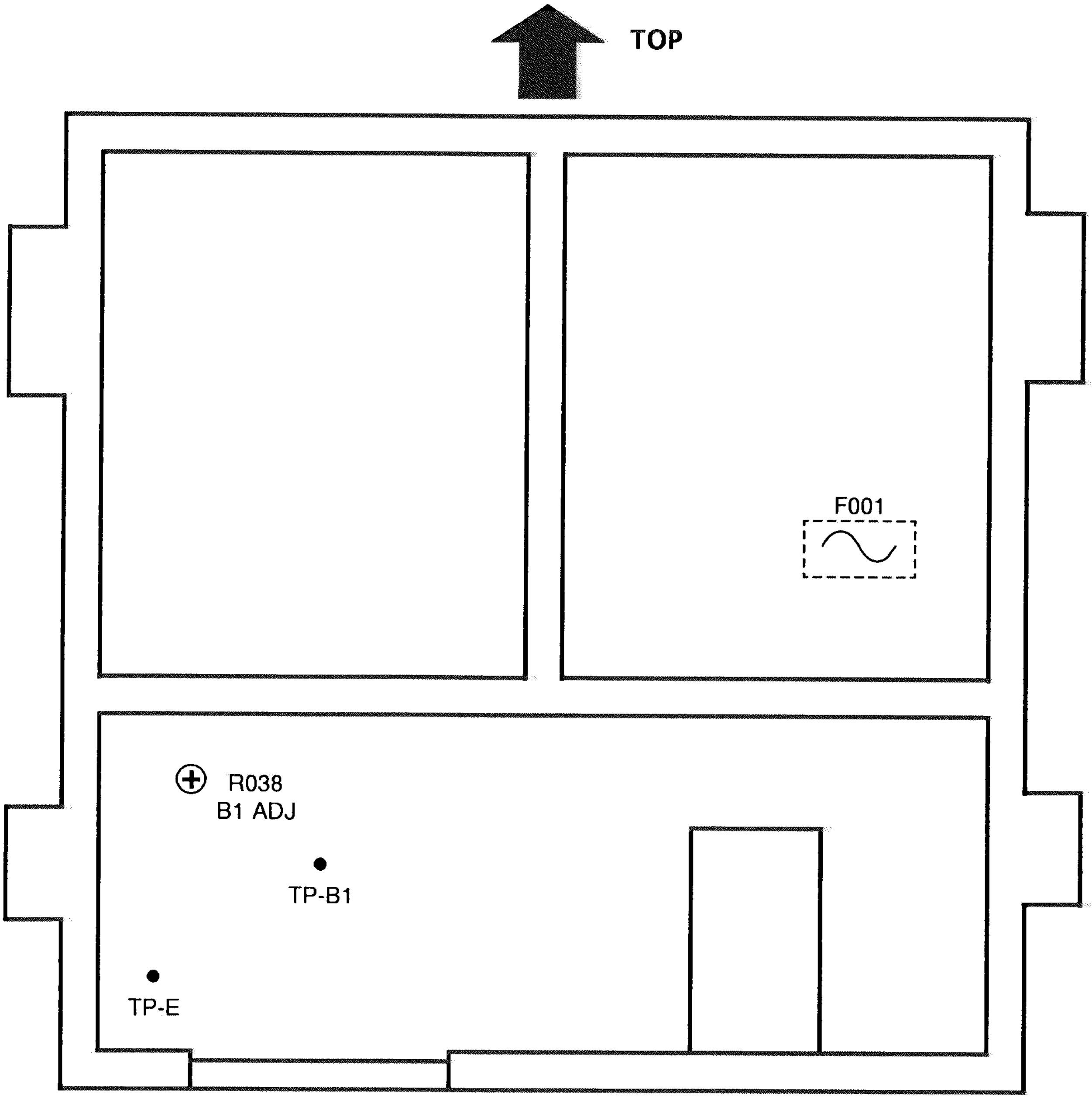
ASPECT RATIO	4 - 3
FILTER SELECT	COMB
PEAKING FREQ.	2.6MHz
PEAKING LEVEL	0dB
AFC	NORMAL
COLOR TEMP.	9300
NTSC SETUP	0
COMPO. LEVEL	SMPTE
RGB/COMPONENT	RGB

ADJUSTMENT LOCATIONS

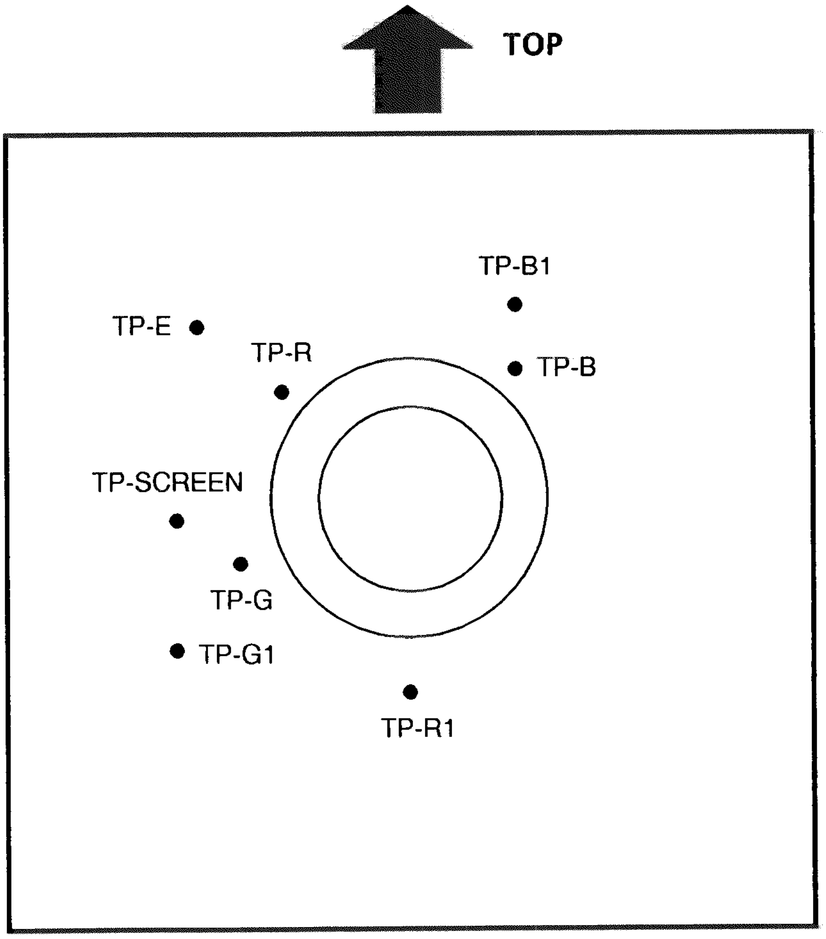
■DEFLECTION PWB (pattern side)


TOP
R313
SCREEN
TP-SC
R612
HVC
TP-E
TP-B1
TP-HV
R582
H PHASE
R503
H HOLD
R416
V CENTER
V-SAW
MODULE
←H FREE→
NORMAL
FREE
S501

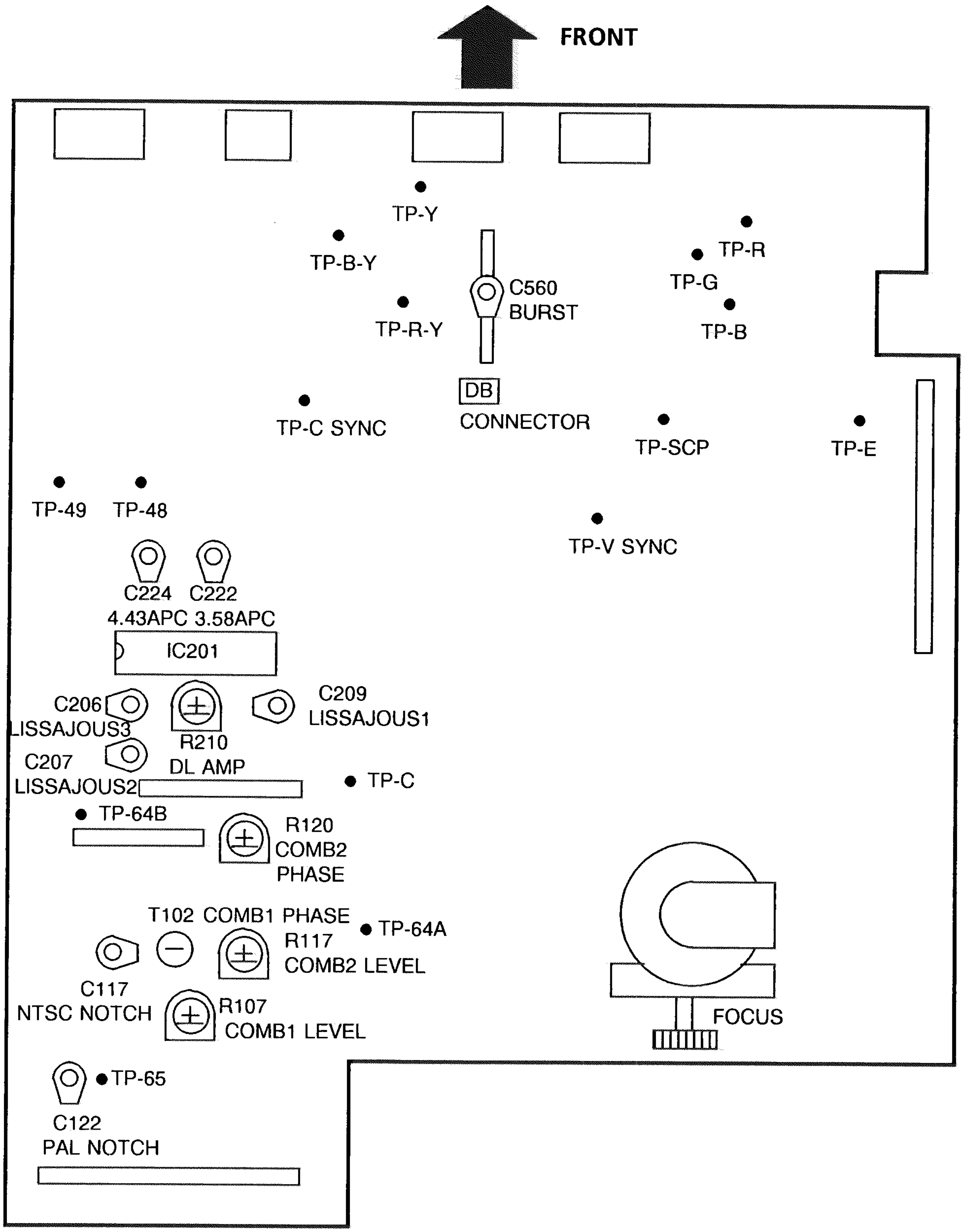
■POWER PWB (pattern side)


TOP
F001
R038
B1 ADJ
TP-B1
TP-E

■CRT SOCKET PWB (pattern side)

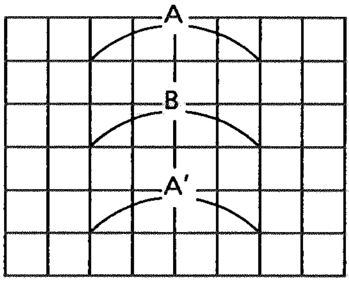

TOP
TP-B1
TP-E
TP-R
TP-B
TP-SCREEN
TP-G
TP-G1
TP-R1

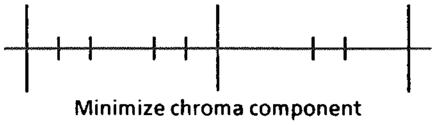
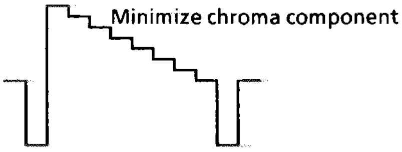
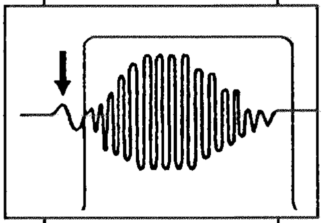
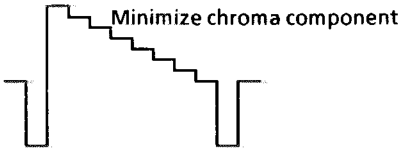
■SIGNAL PWB (parts side)

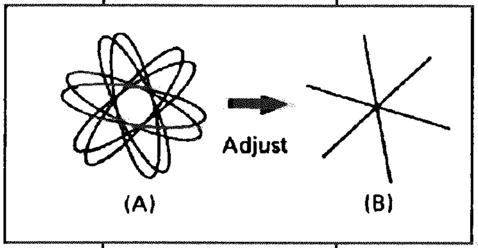
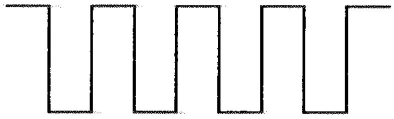

FRONT
TP-Y
TP-B-Y
TP-R-Y
C560
BURST
TP-R
TP-G
TP-B
DB
CONNECTOR
TP-C SYNC
TP-SCP
TP-E
TP-49
TP-48
TP-V SYNC
C224
C222
4.43APC
3.58APC
IC201
C206
LISSAJOUS3
R210
C209
LISSAJOUS1
C207
LISSAJOUS2
DL AMP
TP-C
TP-64B
R120
COMB2
PHASE
T102
COMB1 PHASE
TP-64A
R117
COMB2 LEVEL
C117
NTSC NOTCH
R107
COMB1 LEVEL
FOCUS
TP-65
C122
PAL NOTCH

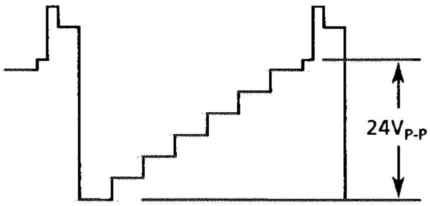
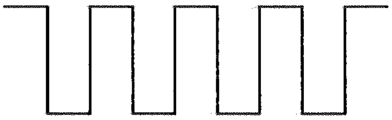
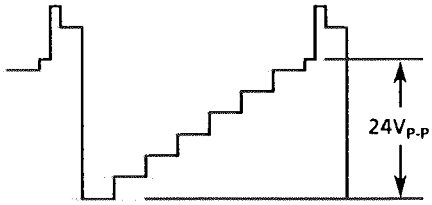
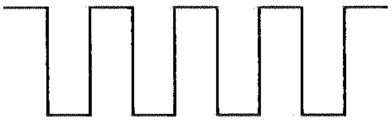
ADJUSTING STEP

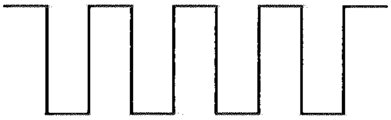
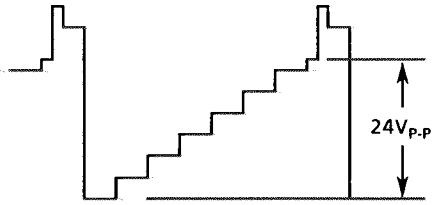
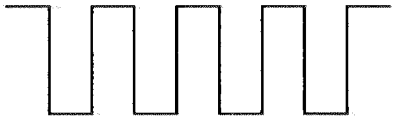
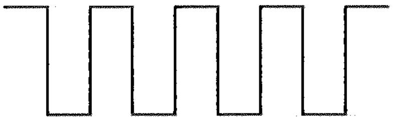
Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
B1 voltage check	Voltmeter Variable transformer	TP-B1 TP-E [POWER PWB]	R038 (B1 adj) [POWER PWB]	1. Set power supply voltage to 198 V. 2. Set CONTRAST and BRIGHT to minimum and produce a black screen. 3. Connect voltmeter between TP-B1 and TP-E. Switch on power. 4. Adjust R038 (B1 adj) to set the B1 voltage to 54.0 ± 0.1 V. 5. Set the power supply voltage to 264 V. 6. Check for B1 voltage of 54.0 ± 0.2 V. 7. Return the CONTRAST and BRIGHT controls to the detent positions.
High voltage check	High voltage meter Signal generator (All-black signal)			1. Set the Ext Sync switch to Ext. 2. Connect a synchronization signal to Ext Sync. 3. When the raster appears, reduce the BRIGHT control. 4. Connect the high voltage meter to the anode and check for 22.5 - 23.5 KV. 5. Return the Ext Sync switch to Int.
V.deflection center	Signal generator (Resolution pattern)		D02(NTSC V SHIFT) [SERVICE MENU] R416(V CENTER) [DEFLECTION PWB]	● Perform after purity adjustment. ● Adjust deflection yoke inclination. 1. At SERVICE MENU, set D02 to 32. 2. Adjust R416 (V CENTER) to align the picture center with the CRT center.
Screen	Oscilloscope Signal generator (Color bar)	TP-SC	R313 (SCREEN) [DEFLECTION PWB]	1. Connect oscilloscope to TP-SC. 2. Adjust R313 (Screen) to set the screen voltage to 450 ± 10 V.
Focus	Signal generator (Resolution pattern)		FOCUS VR [HVT]	1. Adjust the Focus VR for optimum focus where moire is not apparent. 2. Darken the picture and and adjust the focus by turning counter-clockwise from the position where focus is poor. 3. Alternately repeat the above steps to obtain the optimum position. ● Focus can be adjusted easily by displaying the menu.
H frequency	Signal generator (Resolution pattern)		D06(H SHIFT) [SERVICE MENU] S501 (H FREE SW) R503(H HOLD) [DEFLECTION PWB]	1. At the SERVICE MENU, set D06 to 32. 2. Set S501 (H Free SW) to Free. 3. Adjust screen sync with R503 (H Hold). 4. Set S501 (H Free SW) to Normal. 5. Change the signal, then return the previous signal. Confirm absence of sync disturbance.
H center (NTSC)	Signal generator (Resolution pattern)		D06(H SHIFT) [SERVICE MENU] R582(H PHASE) [DEFLECTION PWB]	1. At the SERVICE MENU, set D06 to 32. 2. Adjust R582 (H Phase) to align the picture center with the CRT center.

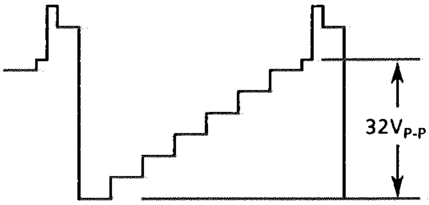
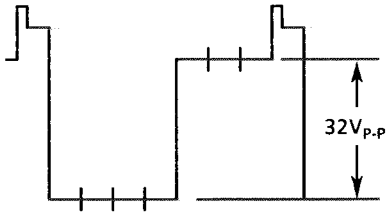
Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
HVC	Voltmeter Signal generator (All-black signal)	TP-HV	R612(HVC) [DEFLECTION PWB]	1. Set Ext Sync to Ext and supply a horizontal sync signal input. 2. When the raster appears, reduce the BRIGHT control. 3. Connect the voltmeter to TP-HV. 4. Adjust R612 (HVC) for 2.0 ± 0.1 V.
H gain (NTSC)	Signal generator (Resolution or crosshatch pattern)		D05(H SIZE) D21(H SIZE) D22(H SHIFT) [SERVICE MENU]	1. At the SERVICE MENU, set D05 to adjust the horizontal size to 95 %. 2. Set the Scan Size to Under. 3. Set D21 to 00. 4. Set D22 to 00. 5. Return the Scan Size to normal.
H center H gain (PAL)	Signal generator (Resolution or crosshatch pattern)		D15(H SHIFT) D14(H SIZE) [SERVICE MENU]	1. Adjust D15 to align the picture center with the CRT center. 2. Adjust D14 to set the horizontal size to 95 %.
V gain, V center, V linearity (NTSC)	Signal generator (Resolution pattern)		D03(V LINEARITY) D01(V SIZE) D17(V SIZE) D19(V LINEARITY) D18(V SHIFT) [SERVICE MENU]	1. Check that the horizontal line of the video signal center is at the CRT center (if shifted, adjust R416). 2. Adjust the picture vertical linearity (scan ratio) with D03. 3. Adjust the screen top and bottom edges to 95 % with D01. 4. Set the Scan Size to Under. 5. Set D17 to 230. 6. Set D19 to 00. 7. Set D18 to 00. 8. Return the Scan Size to normal.
V gain, V center, V linearity (PAL)	Signal generator (Resolution pattern)		D11(V SHIFT) D12(V LINEARITY) D10(V SIZE) [SERVICE MENU]	1. Adjust D11 to align the video signal center with the CRT center. 2. Adjust the picture vertical linearity (scan ratio) with D12. 3. Adjust the screen top and bottom edges to 95 % with D10.
Side pincushion (NTSC/PAL)	Signal generator (Crosshatch NTSC/PAL)		D07(PIN AMP) D23(PIN AMP) D16(PIN AMP) [SERVICE MENU]	1. Adjust side pincushion with D07 so that A = B. 2. Set the Scan Size to Under. 3. Adjust side pincushion with D23 so that A = B. 4. Supply a PAL crosshatch input. 5. Return the Scan Size to normal. 6. Adjust side pincushion with D16 so that A = B. 

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Comb filter (NTSC)	**Oscilloscope** **Signal generator (Color bar)**	**TP-64A** **TP-64B**	**R107 (COMB1 LEVEL)** **T102 (COMB1 PHASE)** **R117(COMB2 LEVEL)** **R120(COMB2 PHASE)** **[SIGNAL PWB]**	1. Set the menu Filter Select to Comb. 2. Connect oscilloscope to TP-64A. 3. Alternately adjust R107 and T102 to minimize the chroma component.  4. Connect oscilloscope to TP-64B. 5. Alternately adjust R117 and R120 to minimize the chroma component. 
Notch filter	**Oscilloscope** **Signal generator (Color bar NTSC / PAL)** 	**TP-65** **TP-C** **IC201-14pin**	**C117 (NTSC NOTCH)** **C122 (PAL NOTCH)** **C560 (BURST)** **[SIGNAL PWB]**	1. Set the menu Filter Select to Notch. 2. Connect oscilloscope to TP-65. 3. Adjust C117 to minimize the chroma component. 4. Supply a PAL color bar input. 5. Adjust C122 to minimize the chroma component.  6. Supply a NTSC color bar input. 7. Connect oscilloscope (ch-1) to TP-C and to IC201-14pin (ch-2), so both waves are able to see at the same time. 8. Adjust the C560 so that the ascending curve of the burst gate pulse intersects the burst signal at the point after the arrow-marked place as shown in figure.
Color sync (NTSC)	**Signal generator (Color bar)** **10 KΩ resistor** **Shorting fixture**		**C222(3.58APC)** **[SIGNAL PWB]**	1. Connect a 10 KΩ resistor between IC201 pin 13 and +B (12 V). 2. Connect a shorting fixture between IC201 pin 14 and ground. 3. Adjust to synchronize the color bar with C222. 4. Remove the resistor and shorting fixture. 5. Change the input signal, then return the color bar. Confirm absence of sync disturbance.

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
APC (PAL)	Oscilloscope Signal generator (Color bar, split color bar) 10 KΩ resistor Shorting fixture 	TP-48 TP-49	C224 (4.43APC) R210 (DL AMP) C206 (LISSAJOUS 3) C207 (LISSAJOUS 2) C208 (LISSAJOUS 1) [SIGNAL PWB]	1. Connect a 10 KΩ resistor between IC201 pin 13 and +B (12 V). 2. Connect a shorting fixture between IC201 pin 14 and ground. 3. Connect a 5.6 KΩ resister IC201 pin 8 and ground. 4. Adjust to synchronize the color bar with C224. 5. Connect an oscilloscope to TP-48 and TP-49 and display X-Y coordinates. 6. Adjust R210 and C206 to obtain the waveform indicated in the figure. If inadequate, adjust C207 and C209. 7. Supply a PAL split color bar input and adjust C224 to minimize coloration in the R-Y and B-Y components.
Chroma and phase (Video input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-B [CRT SOCKET PWB]	S02(CHROMA) S03(PHASE) [SERVICE MENU]	1. Supply an NTSC color bar to Video A. 2. Set the menu Filter Select to Notch. 3. Connect oscilloscope to TP-B. 4. Alternately adjust S02 and S03 to obtain a straight line waveform. 5. Set Filter Select to Comb. 

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Contrast (Video input, NTSC)	**Oscilloscope Signal generator (Color bar)**	**TP-G [CRT SOCKET PWB]**	**S04 (CONTRAST) [SERVICE MENU]**	1. Supply an NTSC color bar input to Video A. 2. Set the Color Off switch to off. 3. Connect oscilloscope to TP-G. 4. Adjust the waveform level to 24 Vp-p with S04. 5. Set the Color Off switch to Color. 
Chroma (Video input, PAL)	**Oscilloscope Signal generator (Color bar)**	**TP-B [CRT SOCKET PWB]**	**S05 (CHROMA) [SERVICE MENU]**	1. Supply an PAL color bar input to Video A. 2. Connect oscilloscope to TP-B. 3. Adjust S05 to obtain a straight line waveform. 
Contrast (Video input, PAL)	**Oscilloscope Signal generator (Color bar)**	**TP-G [CRT SOCKET PWB]**	**S06 (CONTRAST) [SERVICE MENU]**	1. Supply an PAL color bar input to Video A. 2. Set the Color Off switch to off. 3. Connect oscilloscope to TP-G. 4. Adjust the waveform level to 24 Vp-p with S06. 5. Set the Color Off switch to Color. 
Phase (Video input,NTSC 4.43)	**Oscilloscope Signal generator (Color bar NTSC 4.43)**	**TP-B [CRT SOCKET PWB]**	**S07 (PHASE) [SERVICE MENU]**	1. Supply an NTSC 4.43 color bar input to Video A. 2. Connect oscilloscope to TP-B. 3. Adjust S07 to obtain a straight line waveform. 

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Chroma and phase (Y/C input, NTSC)	**Oscilloscope Signal generator (Color bar)**	**TP-B [CRT SOCKET PWB]**	**S08 (CHROMA) S09(PHASE) [SERVICE MENU]**	1. Supply an NTSC color bar input to Y/C In. 2. Connect oscilloscope to TP-B. 3. Alternately adjust S08 and S09 to obtain a straight line waveform. 4. Set Filter Select to Comb. 
Contrast (Y/C input, NTSC)	**Oscilloscope Signal generator (Color bar)**	**TP-G [CRT SOCKET PWB]**	**S10 (CONTRAST) [SERVICE MENU]**	1. Supply an NTSC color bar input to Y/C in. 2. Set the Color Off switch to off. 3. Connect oscilloscope to TP-G. 4. Adjust the waveform level to 24 Vp-p with S10. 5. Set the Color Off switch to Color. 
Chroma (Y/C input, PAL)	**Oscilloscope Signal generator (Color bar)**	**TP-B [CRT SOCKET PWB]**	**S11 (CHROMA) [SERVICE MENU]**	1. Supply a PAL color bar input to Y/C in. 2. Connect oscilloscope to TP-B. 3. Adjust S11 to obtain a straight line waveform. 
Chroma (Component input, NTSC)	**Oscilloscope Signal generator (Color bar)**	**TP-B [CRT socket PWB]**	**S12 (CHROMA) [SERVICE MENU]**	1. Set the menu RGB/Component to Component. 2. Supply an NTSC color bar input to Component In. 3. Connect oscilloscope to TP-B. 4. Adjust S12 to obtain a straight line waveform. 5. Return the menu RGB/Component to original setting. 

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Contrast (Component input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-G [CRT SOCKET PWB]	S13 (CONTRAST) [SERVICE MENU]	1. Set the menu RGB/Component to Component. 2. Supply an NTSC color bar input to Component In. 3. Set the Color Off switch to off. 4. Connect oscilloscope to TP-G. 5. Adjust the waveform level to 32 Vp-p with S13. 6. Set the Color Off switch to Color. 7. Return the menu RGB/Component to original setting. 
Contrast (RGB input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-G [CRT SOCKET PWB]	S14 (CONTRAST) [SERVICE MENU]	1. Supply an NTSC color bar input to RGB In. 2. Connect oscilloscope to TP-G. 3. Adjust the waveform level to 32 Vp-p with S14. 
Color temperature (9300 K)	Signal generator (Resolution pattern, color bar) Color analyzer or color temperature meter		W01 (R CUTOFF) W02 (G CUTOFF) W03 (B CUTOFF) W04(R DRIVE) W05(G DRIVE) W06(B DRIVE) [SERVICE MENU]	1. Supply a resolution pattern input. 2. Check that the menu Color Temp. is 9300. 3. Set the Color Off switch to off. 4. Set W01 to 26, W03 to 16, W05 to 32, and W02 to 25. 5. Adjust W04 and W06 for the specified color temperature (reference: W04 = 31, W06 = 29) (X = 0.283, Y = 0.297) 6. Supply a color bar input (black and white). 7. Check for proper white balance tracking. If deviated in the dark components, adjust with W01 and W03. ● Adjustment with color temperature meter: Apply the sensor to the CRT, adjust and measure. If deviated, repeatedly adjust and measure to obtain the specified color temperature.

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Color temperature (6500 K)	**Signal generator (Resolution pattern, color bar) Color analyzer or color temperature meter**		**W07 (R CUTOFF) W08 (G CUTOFF) W09 (B CUTOFF) W10 (R DRIVE) W11 (G DRIVE) W12(B DRIVE) [SERVICE MENU]**	1. Supply a resolution pattern input. 2. Set the menu Color Temp. to 6500. 3. Set the Color Off switch to off. 4. Set W07 to 37, W09 to 08, and W08 to 25. 5. Set W11 to 32. 6. Adjust W10 and W12 for the specified color temperature (reference: W10 = 33, W12 = 23) (X = 0.313, Y = 0.329) 7. Supply a color bar input (black and white). 8. Check for proper white balance tracking. If deviated in the dark components, adjust with W07 and W09. 9. Return the menu Color Temp. to original setting. ● Adjustment with color temperature meter: Apply the sensor to the CRT, adjust and measure. If deviated, repeatedly adjust and measure to obtain the specified color temperature.
Bright	**Signal generator (Split color bar)**		**S01 (BRIGHT) [SERVICE MENU]**	1. Adjust S01 to where the split color 0 % black component faintly brightens (as -1% black component not brightens). 2. Supply another signal and confirm absence of black deviation.

BM-1400PN-A(A) STANDARD CIRCUIT DIAGRAM

■NOTE ON USING CIRCUIT DIAGRAMS

1.SAFETY

The components identified by the ⚠symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

2.SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

(1)Input signal :PAL Colour bar signal
(2)Setting positions of each knob/button and variable resistor :Original setting position when shipped
(3)Internal resistance of tester :DC 20kΩ/V
(4)Oscilloscope sweeping time :H ⇒20μS/div
:V ⇒5mS/div
:Others ⇒ Sweeping time is specified
(5)Voltage values :All DC voltage values

* Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3.INDICATION OF PARTS SYMBOL[EXAMPLE]

- In the PW board :R1209→R209

4.INDICATIONS ON THE CIRCUIT DIAGRAM

(1)Resistors

- Resistance value
  No unit :[Ω]
  K :[KΩ]
  M :[MΩ]
- Rated allowable power
  No indication :1/6[W]
  Others :As specified
- Type
  No indication :Carbon resistor
  OMR :Oxide metal film resistor
  MFR :Metal film resistor
  MPR :Metal plate resistor
  UNFR :Uninflammable resistor
  FR :Fusible resistor

* Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2)Capacitors

- Capacitance value
  1or higher :[pF]
  less than 1 :[μF]
- Withstand voltage
  No indication :DC50[V]
  Others :DC withstand voltage[V]
  AC indicated :AC withstand voltage[V]

* Electrolytic Capacitors
47/50[Example]:Capacitance value[μF]/withstand voltage[V]

- Type
  No indication :Ceramic capacitor
  MY :Mylar capacitor
  MM :Metalized mylar capacitor
  PP :Polypropylene capacitor
  MPP :Metalized polypropylene capacitor
  MF :Metalized film capacitor
  TF :Thin film capacitor
  BP :Bipolar electrolytic capacitor
  TAN :Tantalum capacitor

(3)Coils

No unit :[μH]
Others :As specified

(4)Power Supply

▬▬▬ :B1
▬■▬■ :B2(12V)
▭▭▭ :5V

* Respective voltage values are indicated.

(5)Test Point

⦿ : Test point
○ : Only test point display

(6)Connecting method

□ : Connector
○ : Wrapping or soldering
→≻— →≻— : Receptacle

(7)Ground symbol

⊥ : LIVE side ground
⫫ : ISOLATED(NEUTRAL) side ground
⏚ : EARTH ground
▽ : DIGITAL ground

5.NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND and the ISOLATED(NEUTRAL) : (⫫) side GND. Therefore, care must be taken for the following points.

(1) Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.
(2) Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected, a fuse or any parts will be broken.

◇ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

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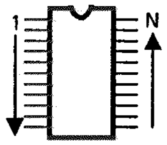
  2. FRONT CONTROL PWB (FX-4034A)
  3. INPUT PWB (FX-6052A)
  4. MICOM PWB (FX-5018A)
  5. SIGNAL PWB (FX-1084A)
  6. DEFLECTION PWB (FX-2046A)
  7. CRT SOCKET PWB (FX-3028A)

SEMICONDUCTOR SHAPES

● IC



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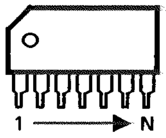
TC4538BP
HD74LS05P
HD74LS00P
AN5640



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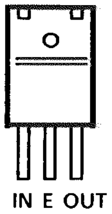

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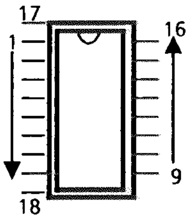
TA79012S
AN7805F



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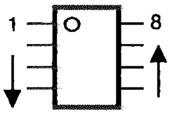

NJM4560D
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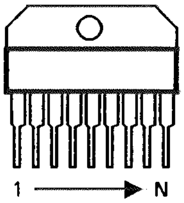
ST24BM-1400



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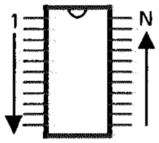

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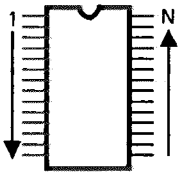

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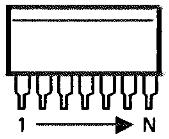
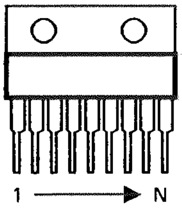
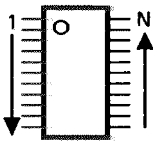


µPC358HA

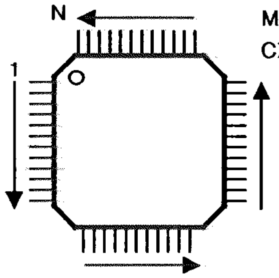


AN5265



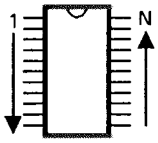
MB90077PF-109

(Flat package IC)



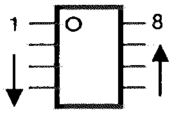
MB89647PF-113
CXD2018Q

(Flat package IC)



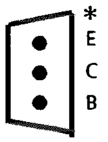
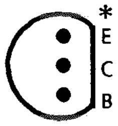
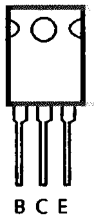
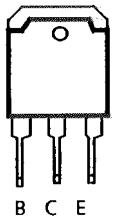
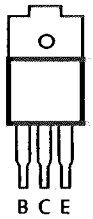
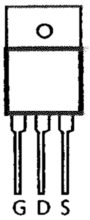
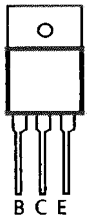
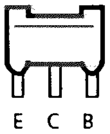
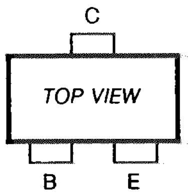
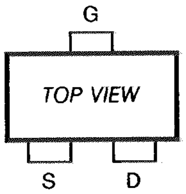
HD74HC32FP
HD74HC158FP

(Flat package IC)

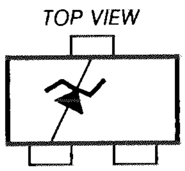
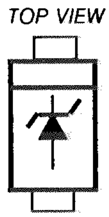


µPC4558G-W

●TRANSISTOR

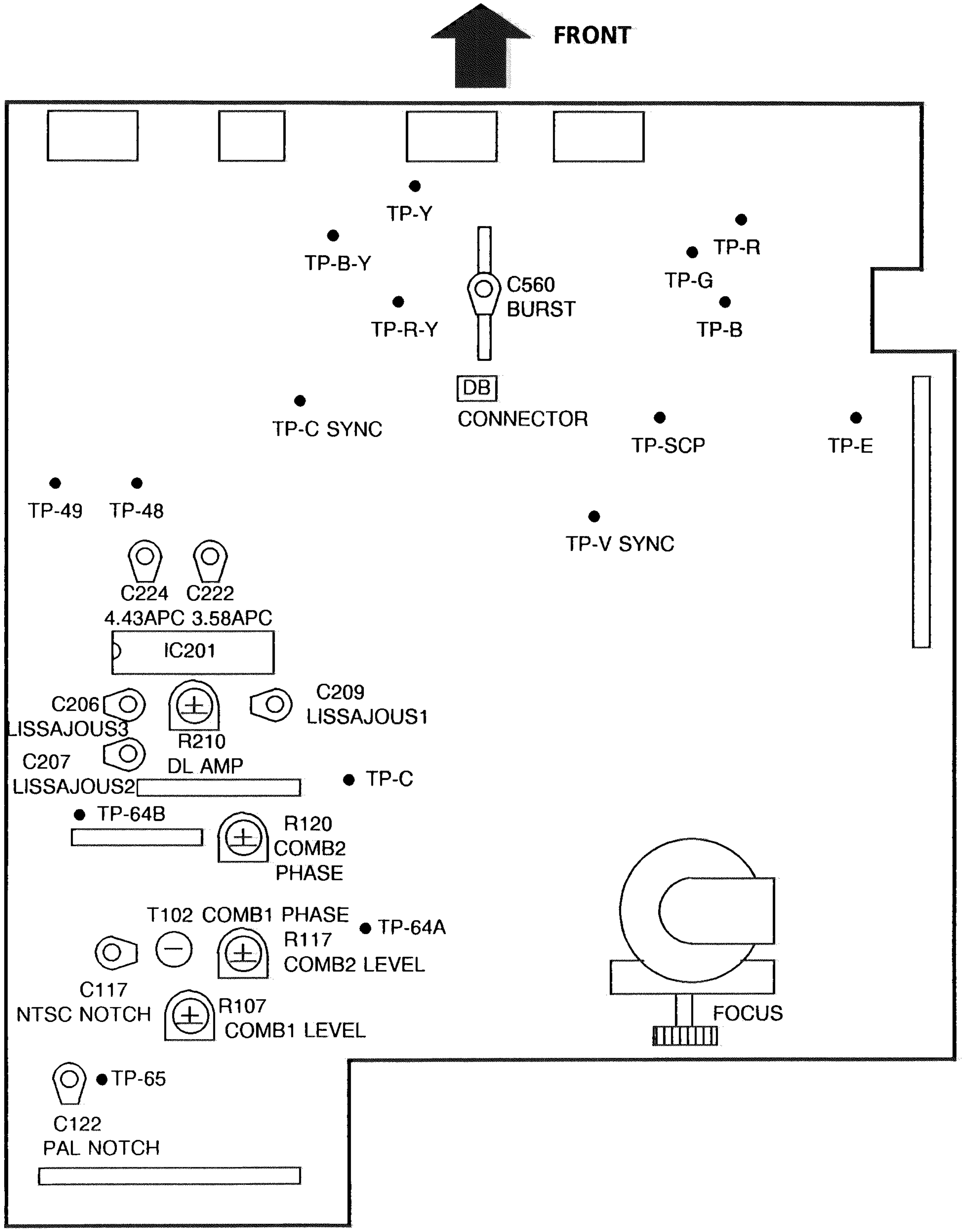
 [Bottom View] 2SC1740S(R) 2SC3311A(Q)-T	 [Bottom View] 2SC3334 2SA1321 2SC1472K 2SA1370(E) 2SA562TM 2SC3187-T 2SC1959(Y) 2SA1309 2SC1815(YG)-T	 2SC4632
 2SC4589-C1	 2SD1408 2SD1409	 2SK1118
 2SC4544	 2SC4502	(CHIP TRANSISTOR)  C TOP VIEW B E 2SC2712(YG) 2SA1162(YG)
(CHIP FET)  G TOP VIEW S D 2SK374(Q)		

●DIODE

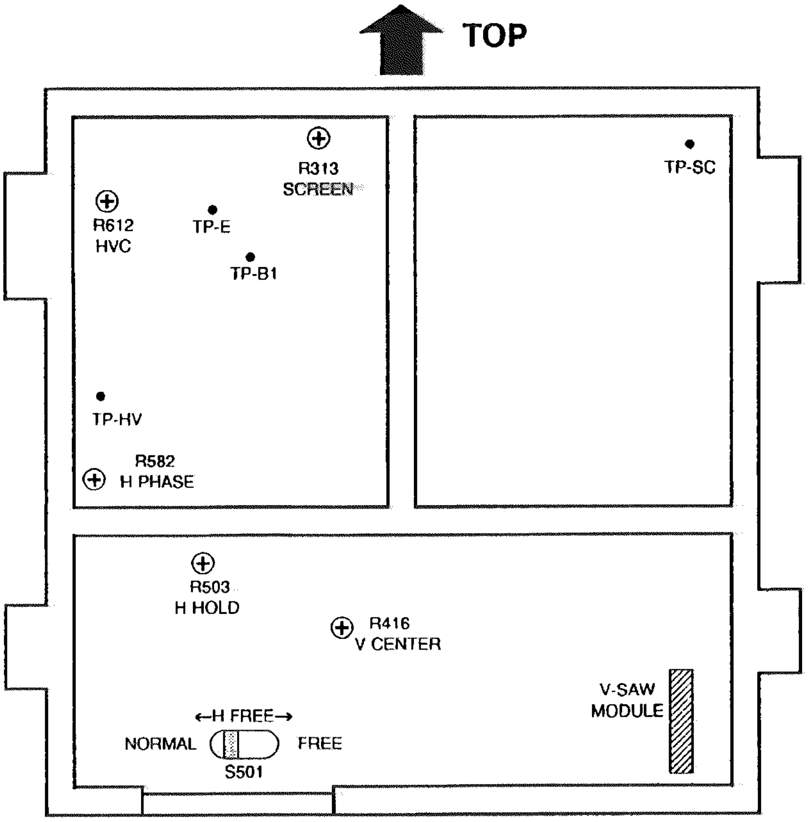
(CHIP DIODE)  MA3056(L)-W MA3150(M)-W MA151K-W	(CHIP DIODE)  MA8054-W MA8130-W	

ALIGNMENT LOCATION

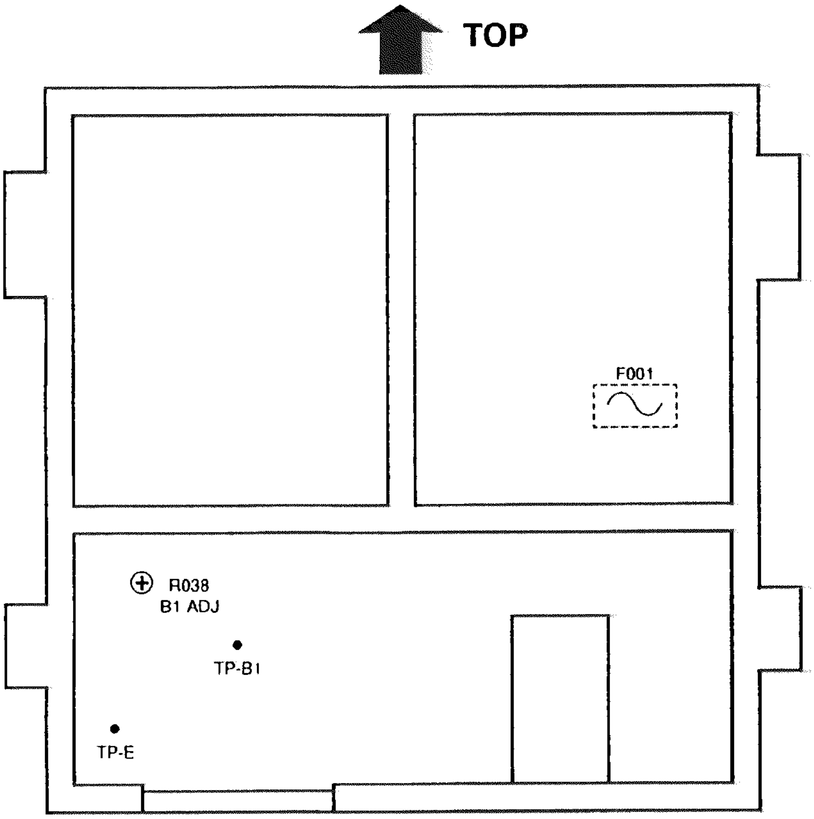
● SIGNAL PWB (PARTS SIDE)


FRONT
TP-Y
TP-B-Y
TP-R-Y
C560
BURST
DB
CONNECTOR
TP-R
TP-G
TP-B
TP-C SYNC
TP-SCP
TP-E
TP-49
TP-48
TP-V SYNC
C224
4.43APC
C222
3.58APC
IC201
C206
LISSAJOUS3
R210
DL AMP
C209
LISSAJOUS1
C207
LISSAJOUS2
TP-C
TP-64B
R120
COMB2
PHASE
T102 COMB1 PHASE
TP-64A
R117
COMB2 LEVEL
C117
NTSC NOTCH
R107
COMB1 LEVEL
FOCUS
TP-65
C122
PAL NOTCH

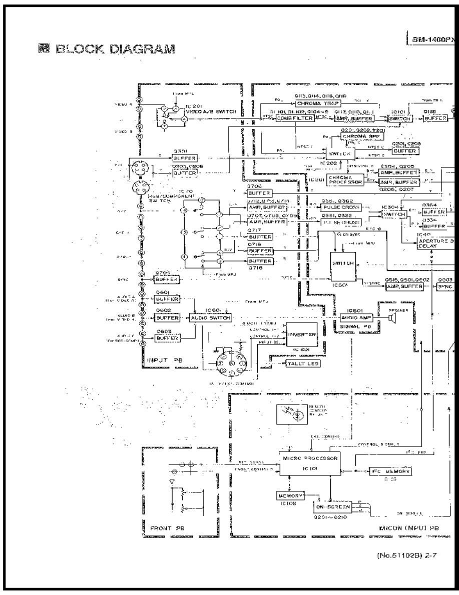
• DEFLECTION PWB (PATTERN SIDE)


TOP
R313
SCREEN
TP-SC
R612
HVC
TP-E
TP-B1
TP-HV
R582
H PHASE
R503
H HOLD
R416
V CENTER
V-SAW
MODULE
←H FREE→
NORMAL
FREE
S501

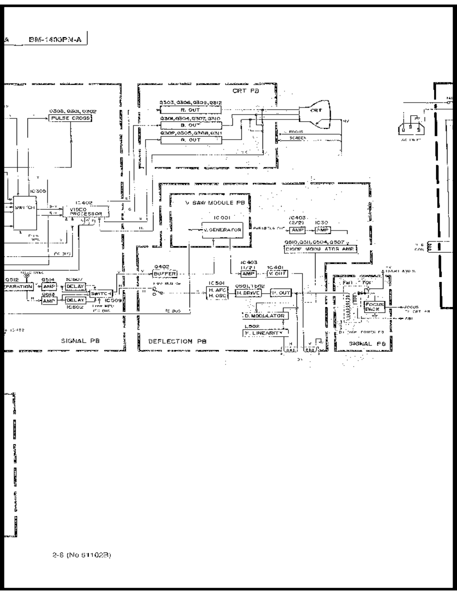
• POWER PWB (PATTERN SIDE)


TOP
F001
R038
B1 ADJ
TP-B1
TP-E

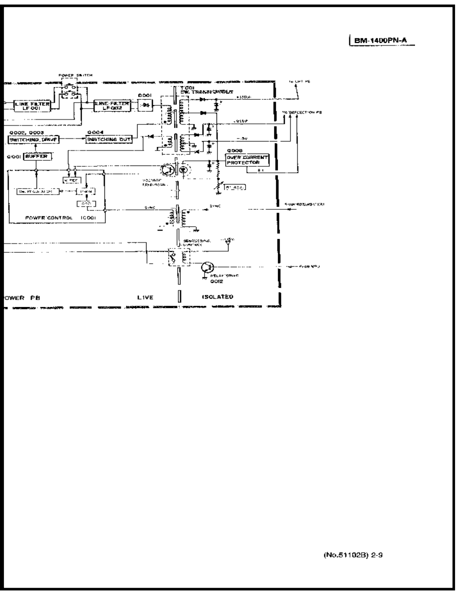
P2-7,8,9-a


BLOCK DIAGRAM
BM-1400PN-A
VIDEO A/B SWITCH
CHROMA TRAP
COMB FILTER
AMP, BUFFER
SWITCH
BUFFER
CHROMA BPF
CHROMA PROCESSOR
PULSE CROSS
APERTURE DELAY
SYNC SEPARATION
AUDIO SWITCH
AUDIO AMP
INVERTER
TALLY LED
INPUT PB
MICRO PROCESSOR
MEMORY
I²C MEMORY
ON SCREEN
FRONT PB
MICON (INPUT) PB
(No.51102B) 2-7

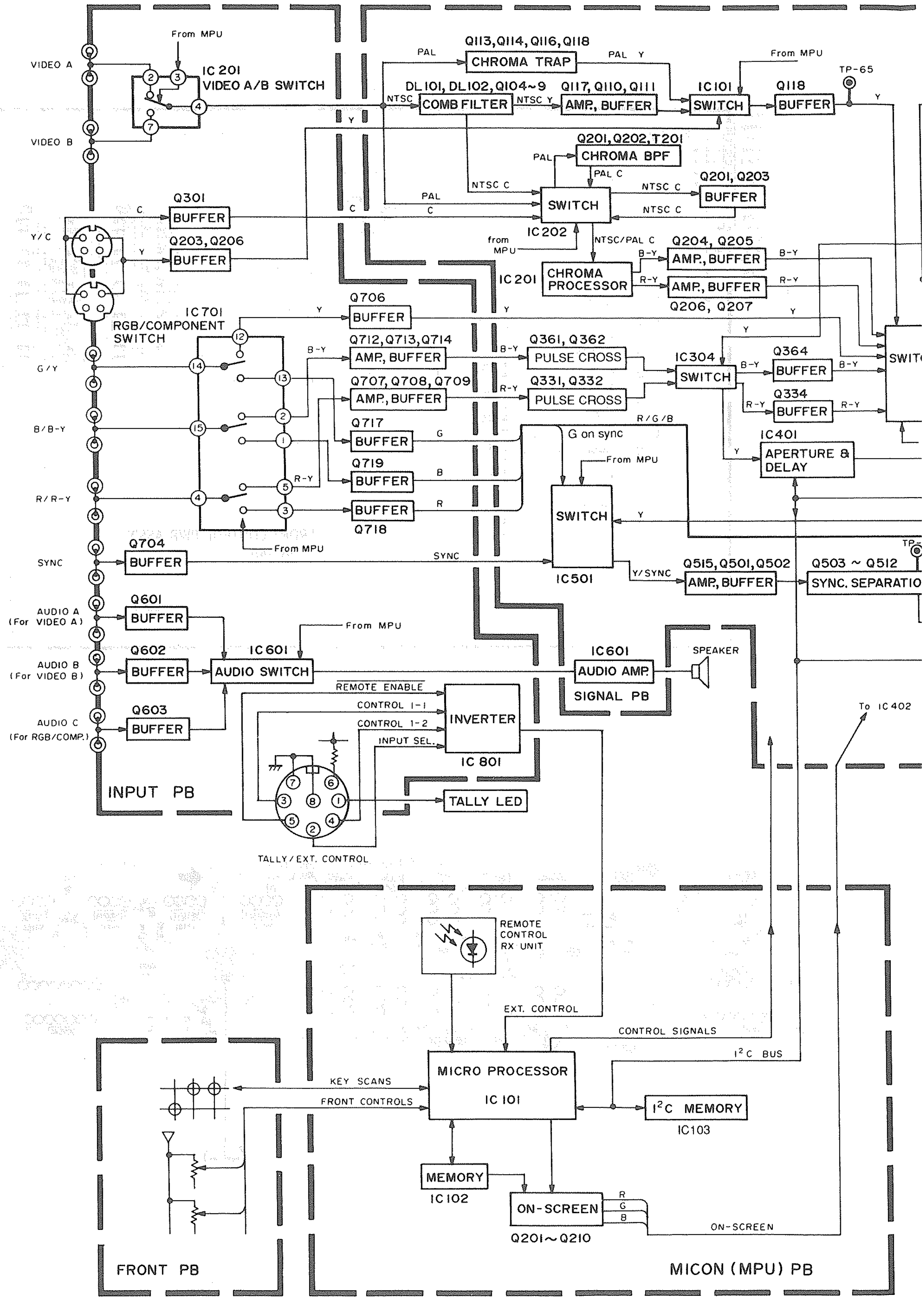
P2-7,8,9-b

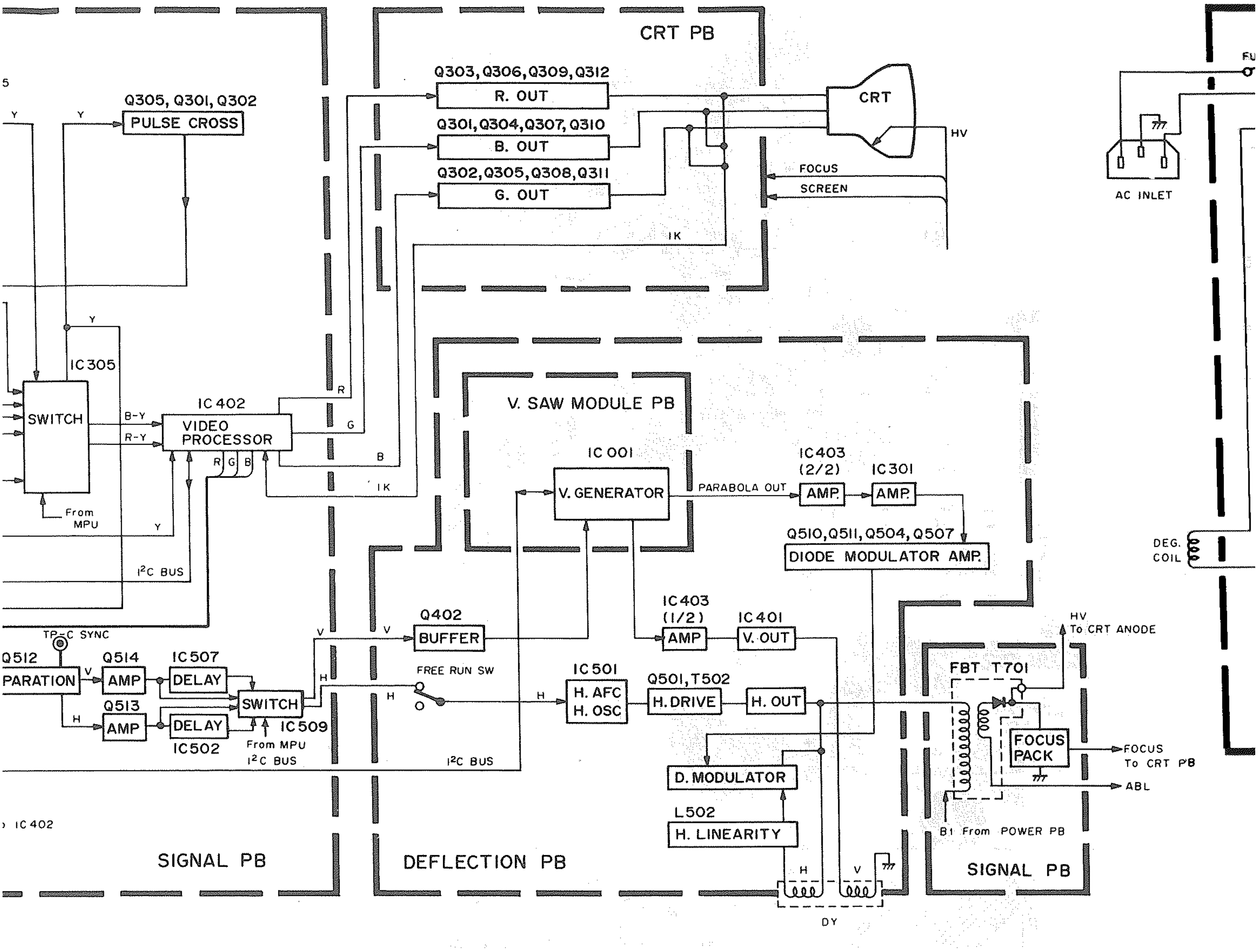

BM-1400PN-A
PULSE CROSS
VIDEO PROCESSOR
R. OUT
B. OUT
G. OUT
CRT
CRT PB
V. SAW MODULE PB
V. GENERATOR
AMP
BUFFER
H. AFC
H. OSC
H. DRIVE
H. OUT
V. OUT
D. MODULATOR
F. LINEARITY
FOCUS PACK
SIGNAL PB
DEFLECTION PB
2-8 (No.51102B)

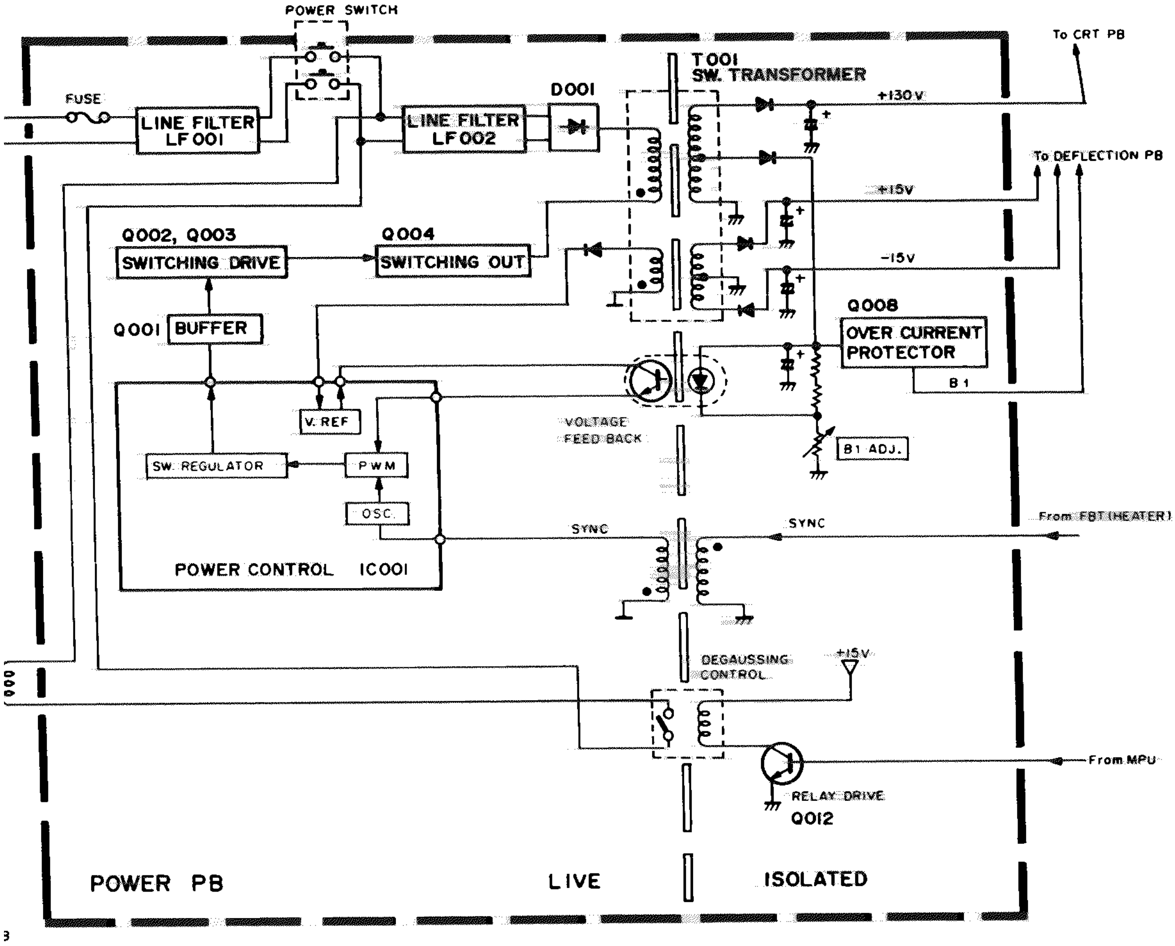
P2-7,8,9-c


BM-1400PN-A
POWER SWITCH
LINE FILTER
SW. TRANSFORMER
SWITCHING DRIVE
SWITCHING OUT
BUFFER
OVER CURRENT PROTECTOR
POWER CONTROL
POWER PB
LIVE
ISOLATED
(No.51102B) 2-9

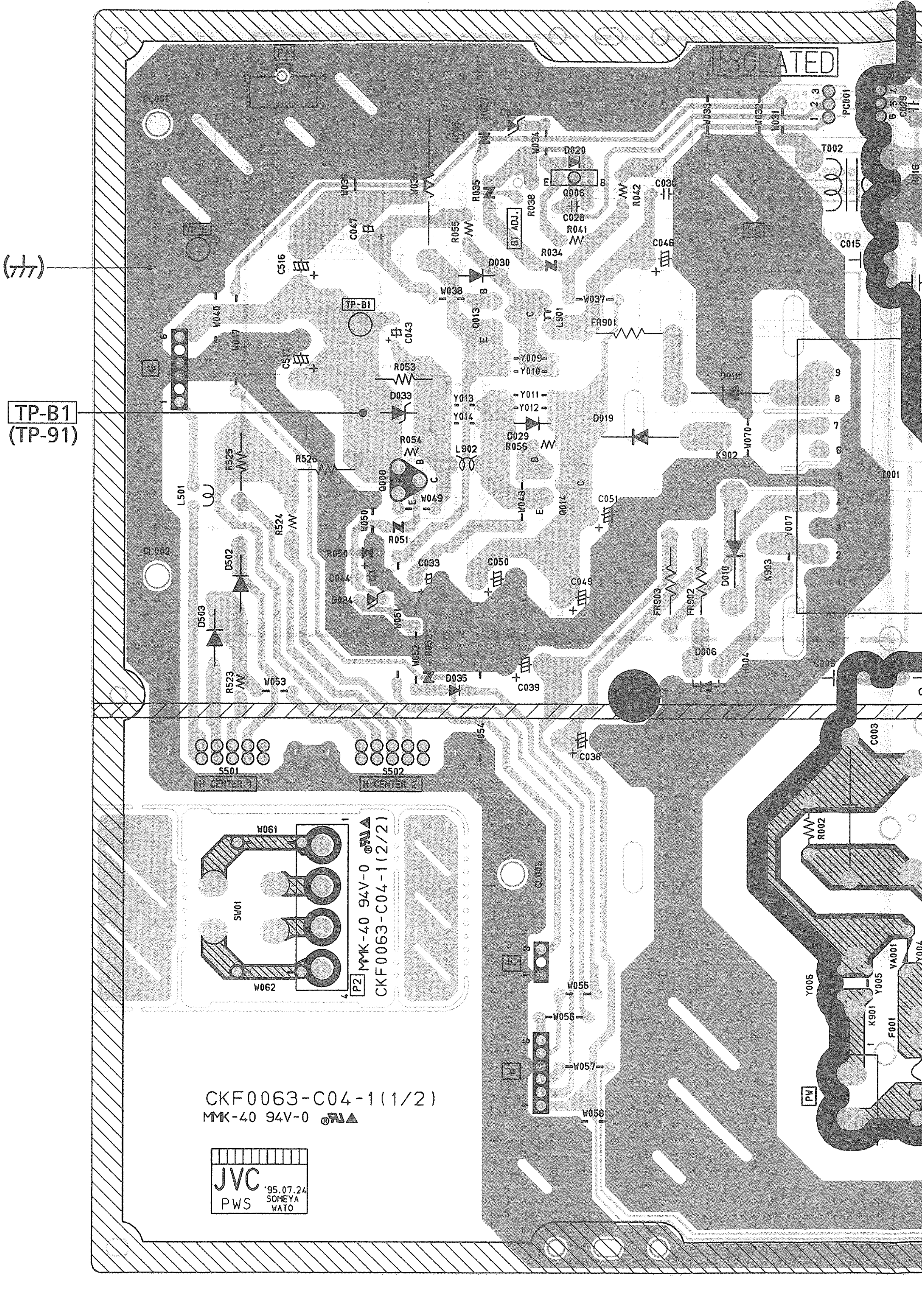
BLOCK DIAGRAM

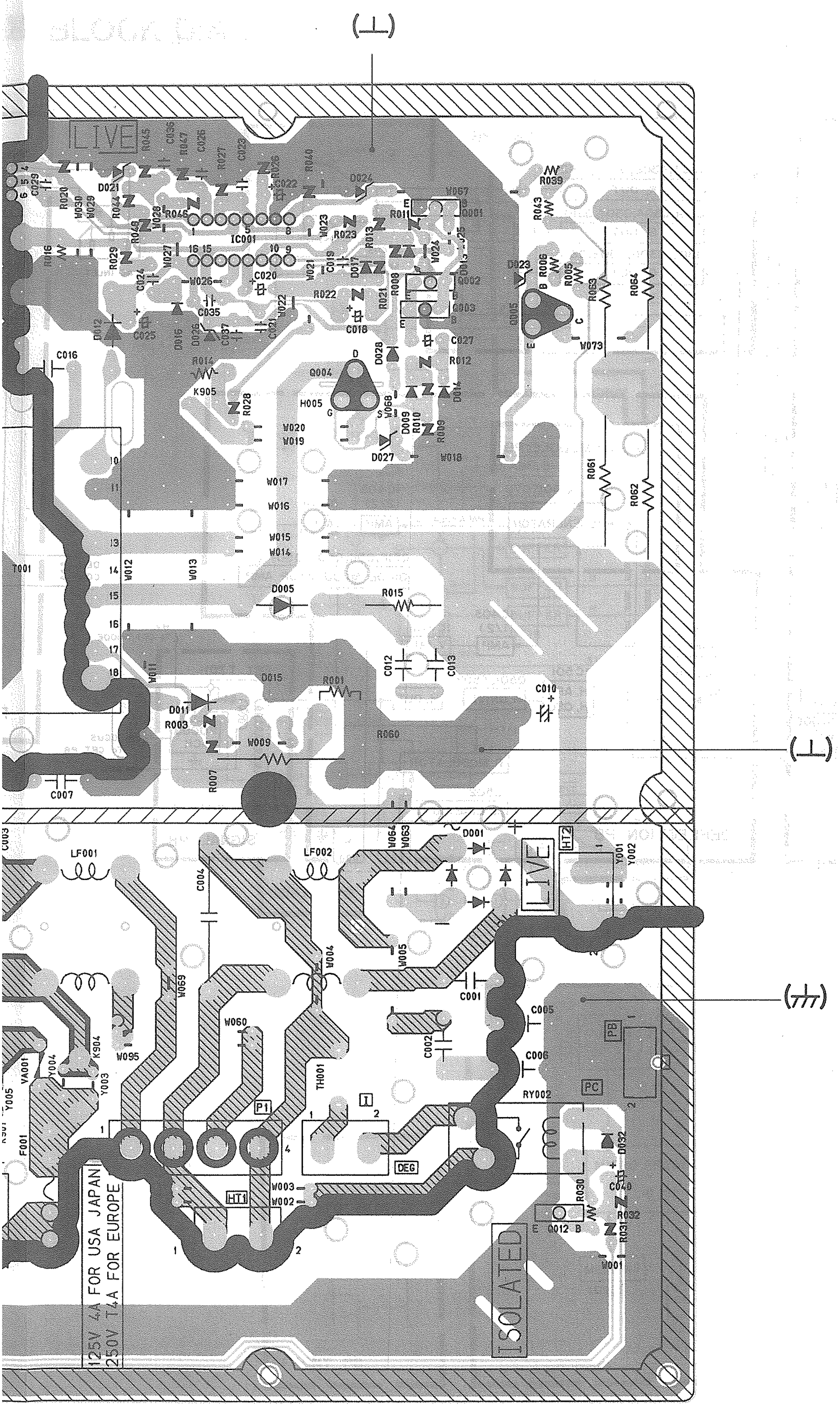

From MPU
IC 201
VIDEO A/B SWITCH
VIDEO A
VIDEO B
Y/C
C
Q301
BUFFER
Y
Q203, Q206
BUFFER
PAL
Q113, Q114, Q116, Q118
CHROMA TRAP
PAL Y
From MPU
TP-65
DL101, DL102, Q104~9
NTSC
COMB FILTER
NTSC Y
Q117, Q110, Q111
AMP., BUFFER
IC101
SWITCH
Q118
BUFFER
Q201, Q202, T201
CHROMA BPF
PAL C
NTSC C
SWITCH
IC202
from MPU
Q201, Q203
BUFFER
NTSC C
NTSC/PAL C
IC201
CHROMA PROCESSOR
B-Y
R-Y
Q204, Q205
AMP., BUFFER
AMP., BUFFER
Q206, Q207
IC701
RGB/COMPONENT SWITCH
G/Y
B/B-Y
R/R-Y
Q706
BUFFER
Q712, Q713, Q714
AMP., BUFFER
Q707, Q708, Q709
AMP., BUFFER
Q717
BUFFER
Q719
BUFFER
BUFFER
Q718
G
B
R
From MPU
Q361, Q362
PULSE CROSS
Q331, Q332
PULSE CROSS
IC304
SWITCH
Q364
BUFFER
Q334
BUFFER
SWIT
R/G/B
G on sync
IC401
APERTURE & DELAY
From MPU
SWITCH
IC501
SYNC
Q704
BUFFER
Y/SYNC
Q515, Q501, Q502
AMP., BUFFER
Q503 ~ Q512
SYNC. SEPARATIO
TP-
AUDIO A (For VIDEO A)
Q601
BUFFER
AUDIO B (For VIDEO B)
Q602
BUFFER
IC601
AUDIO SWITCH
From MPU
AUDIO C (For RGB/COMP.)
Q603
BUFFER
IC601
AUDIO AMP.
SIGNAL PB
SPEAKER
REMOTE ENABLE
CONTROL 1-1
CONTROL 1-2
INPUT SEL.
INVERTER
IC 801
TALLY LED
TALLY/EXT. CONTROL
INPUT PB
To IC402
REMOTE CONTROL RX UNIT
EXT. CONTROL
CONTROL SIGNALS
I²C BUS
KEY SCANS
FRONT CONTROLS
MICRO PROCESSOR
IC 101
I²C MEMORY
IC103
MEMORY
IC102
ON-SCREEN
Q201~Q210
R
G
B
ON-SCREEN
FRONT PB
MICON (MPU) PB


CRT PB
Q303, Q306, Q309, Q312
R. OUT
Q301, Q304, Q307, Q310
B. OUT
Q302, Q305, Q308, Q311
G. OUT
CRT
HV
FOCUS
SCREEN
IK
Q305, Q301, Q302
PULSE CROSS
Y
5
IC305
SWITCH
From MPU
B-Y
R-Y
IC402
VIDEO PROCESSOR
R
G
B
IK
I²C BUS
V. SAW MODULE PB
IC001
V. GENERATOR
PARABOLA OUT
IC403 (2/2)
AMP.
IC301
AMP.
Q510, Q511, Q504, Q507
DIODE MODULATOR AMP.
TP-C SYNC
Q512
PARATION
Q514
AMP
IC507
DELAY
Q513
AMP
DELAY
IC502
SWITCH
IC509
From MPU
I²C BUS
V
H
Q402
BUFFER
FREE RUN SW
IC403 (1/2)
AMP
IC401
V. OUT
IC501
H. AFC
H. OSC
Q501, T502
H. DRIVE
H. OUT
D. MODULATOR
L502
H. LINEARITY
DY
HV To CRT ANODE
FBT T701
FOCUS PACK
FOCUS To CRT PB
ABL
B1 From POWER PB
IC402
SIGNAL PB
DEFLECTION PB
SIGNAL PB
AC INLET
DEG. COIL
FU

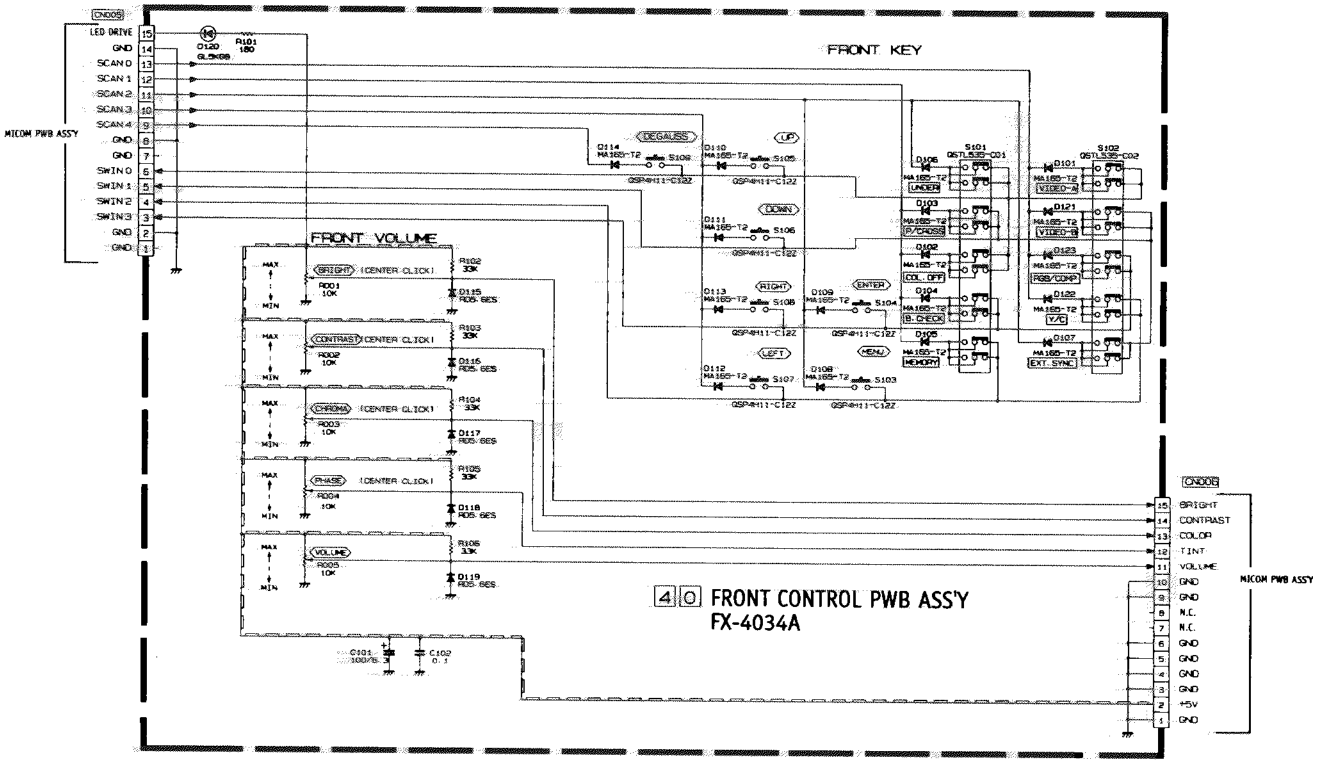

POWER SWITCH
FUSE
LINE FILTER LF001
LINE FILTER LF002
D001
T001 SW. TRANSFORMER
To CRT PB
+130V
To DEFLECTION PB
+15V
-15V
Q002, Q003
SWITCHING DRIVE
Q004
SWITCHING OUT
Q001
BUFFER
Q008
OVER CURRENT PROTECTOR
B1
V. REF
VOLTAGE FEED BACK
B1 ADJ.
SW. REGULATOR
PWM
OSC.
SYNC
SYNC
From FBT (HEATER)
POWER CONTROL IC001
DEGAUSSING CONTROL
+15V
From MPU
RELAY DRIVE
Q012
POWER PB
LIVE
ISOLATED

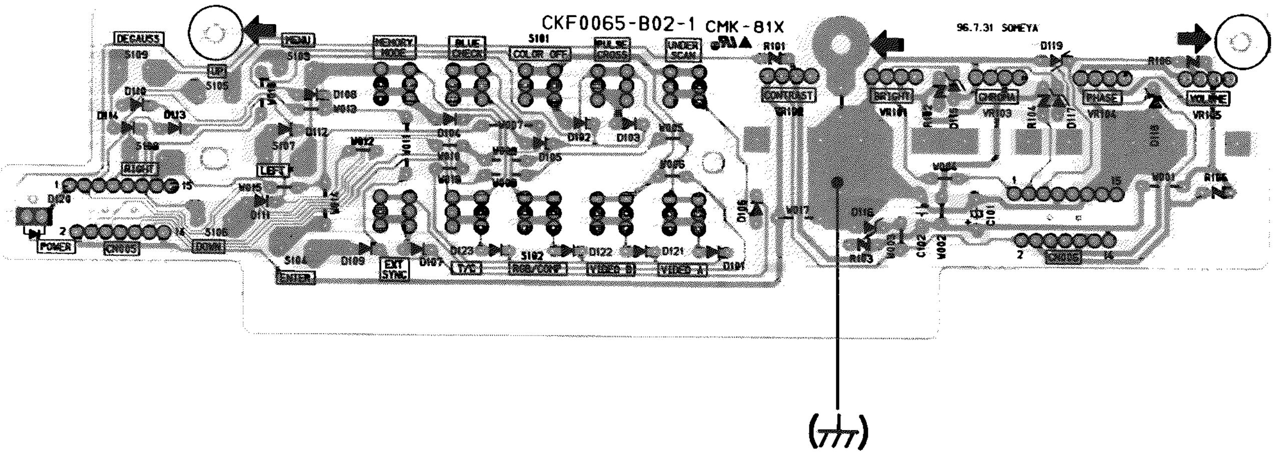
POWER PWB PATTERN DIAGRAM (FX-9038A)


TP-B1
(TP-91)
ISOLATED
PA
CL001
CL002
CL003
TP-E
TP-B1
PC
PC001
C029
T002
R016
C015
R037
D022
R065
W034
D020
Q006
C028
R042
C030
W033
W032
W031
W036
W035
R035
R038
R041
B1 ADJ.
R034
C046
C047
R055
C516
D030
W038
Q013
L901
W037
FR901
W040
W047
C517
C043
R053
Y009
Y010
Y011
Y012
D018
G
D033
Y013
Y014
D029
R056
D019
R054
L902
W070
K902
R525
R526
Q008
W049
Q014
W048
C051
T001
L501
R524
W050
R051
Y007
R050
C033
C050
C044
D034
C049
FR903
FR902
D010
K903
D502
D503
W051
W052
R052
D006
H004
C009
R523
W053
D035
C039
C003
W054
C038
S501
S502
H CENTER 1
H CENTER 2
W061
SW01
W062
P2
MMK-40 94V-0
CKF0063-C04-1(2/2)
R002
F
W055
W056
W057
W058
M
Y006
Y005
VA001
K901
F001
PV
CKF0063-C04-1(1/2)
MMK-40 94V-0
JVC
PWS
'95.07.24
SOMEYA
WATO

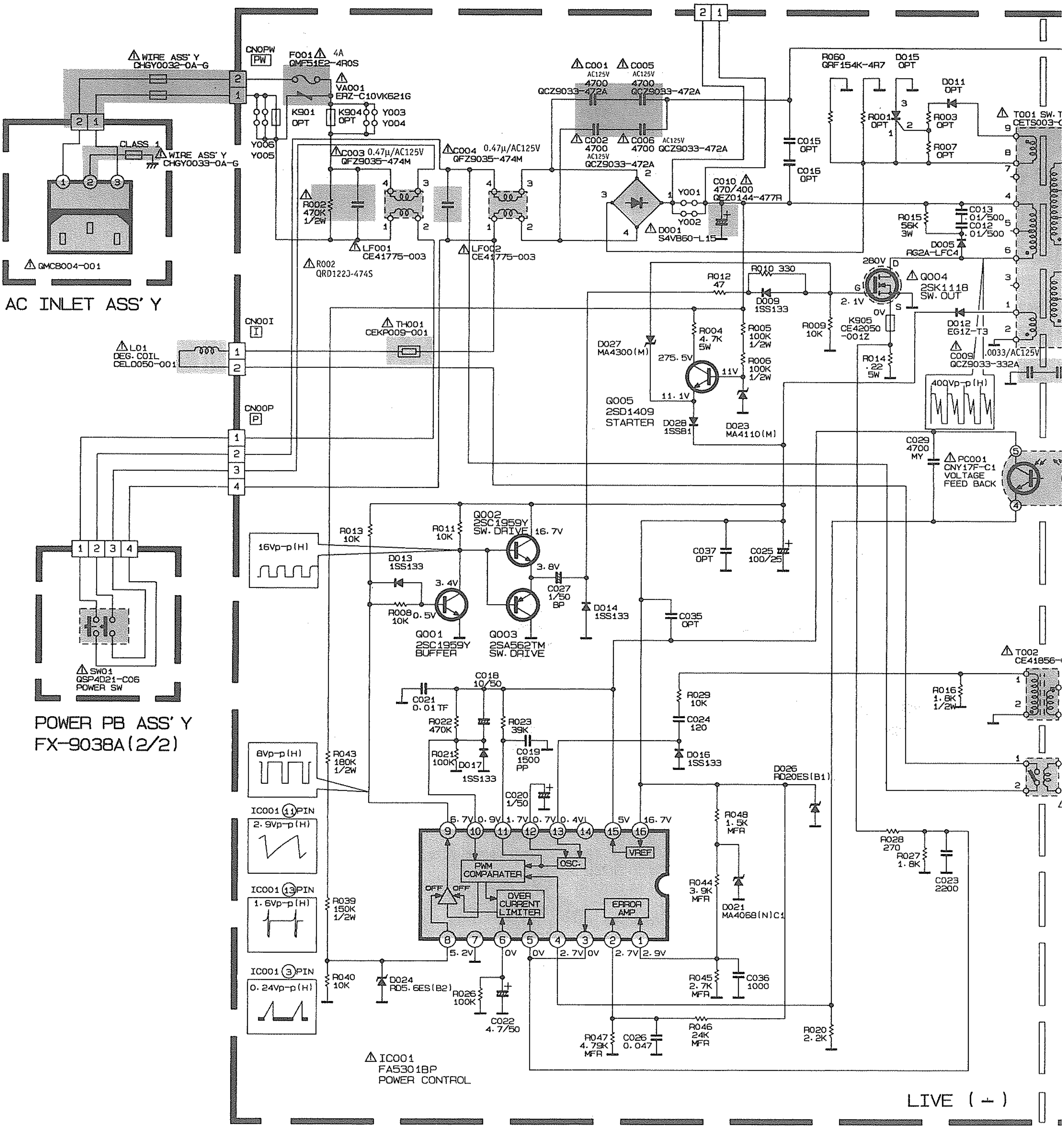

(⊥)
LIVE
IC001
Q001
Q002
Q003
Q004
Q005
H005
K905
T001
D005
D011
D015
R015
R001
R060
R003
R007
W009
C007
C012
C013
C010
C016
R061
R062
R063
R064
R039
R043
W073
W017
W016
W015
W014
W012
W013
W011
W018
W020
W019
D027
D028
D009
R028
R014
(⊥)
LF001
LF002
C004
W064
W063
D001
LIVE
HT2
Y001
Y002
W004
W005
W069
W060
C001
C005
C002
C006
K904
W095
VA001
Y003
Y004
Y005
F001
TH001
P1
DEG
HT1
W003
W002
RY002
PC
PB
D032
C040
R030
R032
R031
Q012
W001
ISOLATED
125V 4A FOR USA JAPAN
250V T4A FOR EUROPE
(⏚)

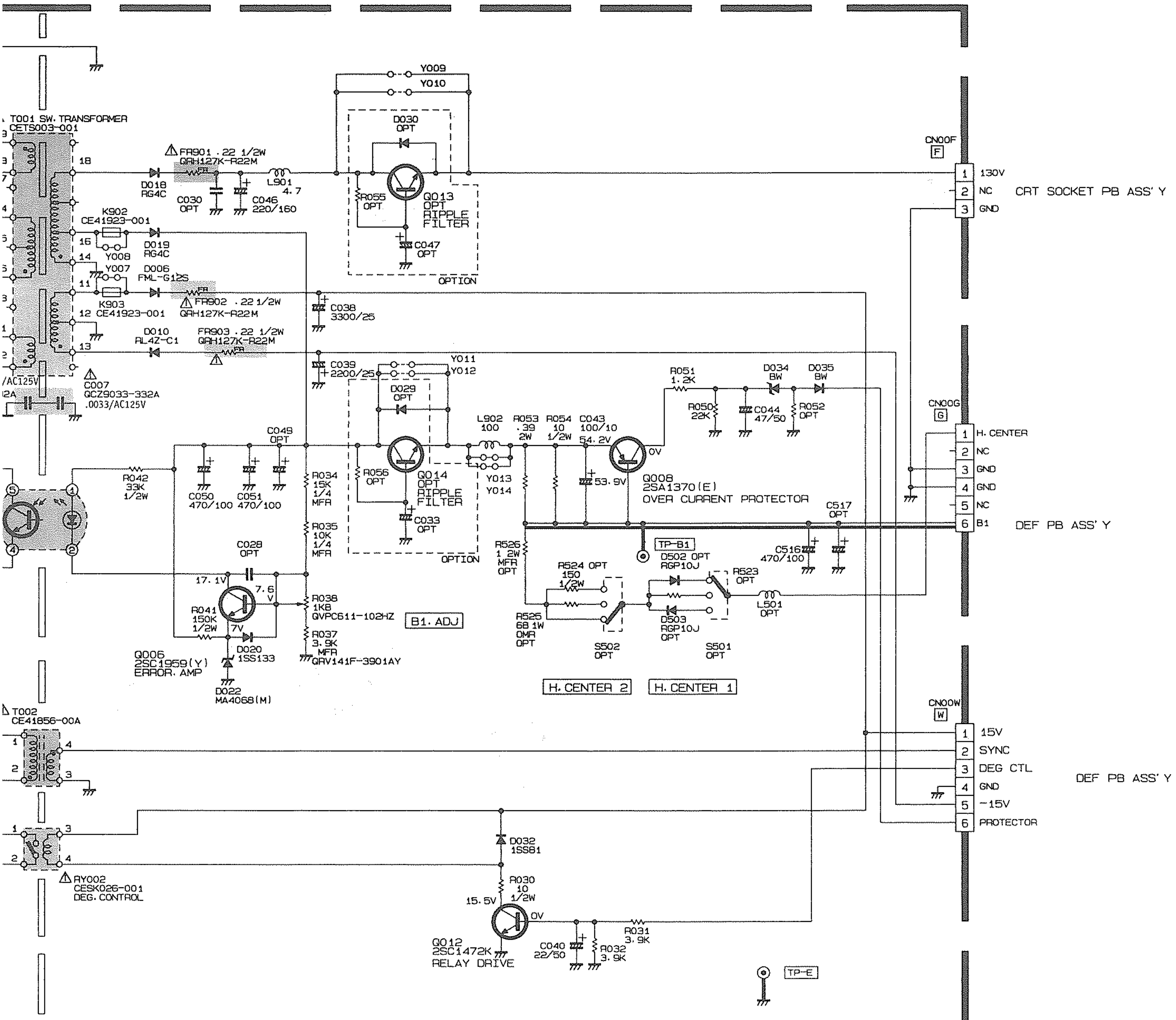
FRONT CONTROL PWB CIRCUIT DIAGRAM / PATTERN DIAGRAM (FX-4034A)


CN005
LED DRIVE 15
GND 14
SCAN 0 13
SCAN 1 12
SCAN 2 11
SCAN 3 10
SCAN 4 9
GND 8
GND 7
SWIN 0 6
SWIN 1 5
SWIN 2 4
SWIN 3 3
GND 2
GND 1
MICOM PWB ASS'Y
D120 GL5KG8
R101 180
FRONT KEY
FRONT VOLUME
DEGAUSS
D114 MA165-T2 S109 QSP4H11-C12Z
UP
D110 MA165-T2 S105 QSP4H11-C12Z
DOWN
D111 MA165-T2 S106 QSP4H11-C12Z
RIGHT
D113 MA165-T2 S108 QSP4H11-C12Z
ENTER
D109 MA165-T2 S104 QSP4H11-C12Z
LEFT
D112 MA165-T2 S107 QSP4H11-C12Z
MENU
D108 MA165-T2 S103 QSP4H11-C12Z
S101 QSTL535-C01
D106 MA165-T2 UNDER
D103 MA165-T2 P/CROSS
D102 MA165-T2 COL. OFF
D104 MA165-T2 B. CHECK
D105 MA165-T2 MEMORY
S102 QSTL535-C02
D101 MA165-T2 VIDEO-A
D121 MA165-T2 VIDEO-B
D123 MA165-T2 RGB/COMP
D122 MA165-T2 Y/C
D107 MA165-T2 EXT. SYNC
MAX
MIN
BRIGHT (CENTER CLICK)
R001 10K
R102 33K
D115 RD5.6ES
CONTRAST (CENTER CLICK)
R002 10K
R103 33K
D116 RD5.6ES
CHROMA (CENTER CLICK)
R003 10K
R104 33K
D117 RD5.6ES
PHASE (CENTER CLICK)
R004 10K
R105 33K
D118 RD5.6ES
VOLUME
R005 10K
R106 33K
D119 RD5.6ES
C101 100/6.3
C102 0.1
4 0 FRONT CONTROL PWB ASS'Y
FX-4034A
CN006
15 BRIGHT
14 CONTRAST
13 COLOR
12 TINT
11 VOLUME
10 GND
9 GND
8 N.C.
7 N.C.
6 GND
5 GND
4 GND
3 GND
2 +5V
1 GND
MICOM PWB ASS'Y


CKF0065-B02-1 CMK-81X
96.7.31 SOMEYA
DEGAUSS
S109
MENU
S103
UP
S105
MEMORY MODE
BLUE CHECK
S101
COLOR OFF
PULSE CROSS
UNDER SCAN
R101
CONTRAST
VR102
BRIGHT
VR101
R102
D115
CHROMA
VR103
R104
D117
PHASE
VR104
D118
D119
R105
VOLUME
VR105
R106
D110
D114
D113
S108
RIGHT
D108
W013
D112
S107
W012
W011
D104
W010
W007
W009
W008
D102
D103
D105
W005
W006
LEFT
W015
D111
W014
D106
W017
D116
R103
W003
C102
W002
C101
W004
W001
D120
POWER
CN005
DOWN
S106
S104
ENTER
D109
EXT SYNC
D107
D123
Y/C
S102
RGB/COMP
D122
VIDEO B
D121
VIDEO A
D101
CN006
1
2
14
15

POWER PWB CIRCUIT DIAGRAM


⚠WIRE ASS'Y CHGY0032-0A-G
CNOPW PW
F001⚠ 4A QMF51E2-4R0S
⚠VA001 ERZ-C10VK621G
K901 OPT
K904 OPT
Y003
Y004
Y005
Y006
CLASS 1
⚠WIRE ASS'Y CHGY0033-0A-G
⚠QMC8004-001
AC INLET ASS'Y
⚠C003 0.47µ/AC125V QFZ9035-474M
⚠C004 0.47µ/AC125V QFZ9035-474M
⚠R002 470K 1/2W
⚠LF001 CE41775-003
⚠LF002 CE41775-003
⚠R002 QRD122J-474S
⚠C001 AC125V 4700 QCZ9033-472A
⚠C005 AC125V 4700 QCZ9033-472A
⚠C002 4700 AC125V QCZ9033-472A
⚠C006 AC125V 4700 QCZ9033-472A
⚠D001 S4VB60-L15
C010 ⚠ 470/400 QEZ0144-477R
Y001
Y002
C015 OPT
C016 OPT
R060 QRF154K-4R7
D015 OPT
D011 OPT
R001 OPT
R003 OPT
R007 OPT
⚠T001 SW.T CETS003-
R015 56K 3W
C013 .01/500
C012 .01/500
D005 RG2A-LFC4
280V
⚠Q004 2SK1118 SW. OUT
R010 330
R012 47
D009 1SS133
2.1V
0V
R009 10K
K905 CE42050-001Z
D012 EG1Z-T3
C009 QCZ9033-332A
.0033/AC125V
R014 .22 5W
400Vp-p(H)
CN00I I
⚠L01 DEG. COIL CEL0050-001
⚠TH001 CEKP009-001
D027 MA4300(M)
R004 4.7K 5W
R005 100K 1/2W
R006 100K 1/2W
275.5V
11V
11.1V
Q005 2SD1409 STARTER
D028 1SS81
D023 MA4110(M)
C029 4700 MY
⚠PC001 CNY17F-C1 VOLTAGE FEED BACK
CN00P P
POWER PB ASS'Y FX-9038A(2/2)
⚠SW01 QSP4D21-C06 POWER SW
16Vp-p(H)
R013 10K
R011 10K
Q002 2SC1959Y SW. DRIVE
16.7V
3.8V
D013 1SS133
3.4V
R008 10K
0.5V
Q001 2SC1959Y BUFFER
Q003 2SA562TM SW. DRIVE
C027 1/50 BP
D014 1SS133
C037 OPT
C025 100/25
C035 OPT
⚠T002 CE41856-
R016 1.8K 1/2W
C018 10/50
C021 0.01TF
R022 470K
R023 39K
R021 100K
D017 1SS133
C019 1500 PP
C020 1/50
R029 10K
C024 120
D016 1SS133
D026 RD20ES(B1)
8Vp-p(H)
R043 180K 1/2W
IC001 ⑪PIN 2.9Vp-p(H)
IC001 ⑬PIN 1.6Vp-p(H)
IC001 ③PIN 0.24Vp-p(H)
R039 150K 1/2W
R040 10K
6.7V 0.9V 1.7V 0.7V 0.4V 5V 16.7V
PWM COMPARATER
OSC.
VREF
OFF OFF
OVER CURRENT LIMITER
ERROR AMP
5.2V 0V 0V 2.7V 0V 2.7V 2.9V
R048 1.5K MFR
R044 3.9K MFR
D021 MA4068(N)C1
R028 270
R027 1.8K
C023 2200
D024 RD5.6ES(B2)
R026 100K
C022 4.7/50
R045 2.7K MFR
C036 1000
R046 24K MFR
R047 4.79K MFR
C026 0.047
R020 2.2K
⚠IC001 FA5301BP POWER CONTROL
LIVE (⏊)


Y009
Y010
D030
OPT
T001 SW. TRANSFORMER
CETS003-001
FR901 .22 1/2W
QRH127K-R22M
18
D018
RG4C
C030
OPT
C046
220/160
L901
4.7
R055
OPT
Q013
OPT
RIPPLE
FILTER
C047
OPT
OPTION
K902
CE41923-001
16
14
Y008
D019
RG4C
Y007
D006
FML-G12S
11
K903
12 CE41923-001
FR902 .22 1/2W
QRH127K-R22M
C038
3300/25
13
D010
RL4Z-C1
FR903 .22 1/2W
QRH127K-R22M
/AC125V
C007
QCZ9033-332A
.0033/AC125V
C039
2200/25
Y011
Y012
D029
OPT
R056
OPT
Q014
OPT
RIPPLE
FILTER
C033
OPT
OPTION
L902
100
R053
.39
2W
R054
10
1/2W
C043
100/10
54.2V
Y013
Y014
53.9V
0V
Q008
2SA1370(E)
OVER CURRENT PROTECTOR
R051
1.2K
D034
BW
D035
BW
R050
22K
C044
47/50
R052
OPT
C049
OPT
R042
33K
1/2W
C050
470/100
C051
470/100
R034
15K
1/4
MFR
R035
10K
1/4
MFR
C028
OPT
17.1V
7.6V
7V
R041
150K
1/2W
R038
1KB
QVPC611-102HZ
B1. ADJ
R037
3.9K
MFR
QRV141F-3901AY
D020
1SS133
Q006
2SC1959(Y)
ERROR. AMP
D022
MA4068(M)
TP-B1
D502 OPT
RGP10J
R526
1 2W
MFR
OPT
R524 OPT
150
1/2W
R523
OPT
R525
68 1W
OMR
OPT
D503
RGP10J
OPT
L501
OPT
S502
OPT
S501
OPT
H. CENTER 2
H. CENTER 1
C516
470/100
C517
OPT
CN00F
F
1 130V
2 NC
3 GND
CRT SOCKET PB ASS'Y
CN00G
G
1 H. CENTER
2 NC
3 GND
4 GND
5 NC
6 B1
DEF PB ASS'Y
T002
CE41856-00A
CN00W
W
1 15V
2 SYNC
3 DEG CTL
4 GND
5 -15V
6 PROTECTOR
DEF PB ASS'Y
D032
1SS81
R030
10
1/2W
15.5V
0V
R031
3.9K
C040
22/50
R032
3.9K
Q012
2SC1472K
RELAY DRIVE
RY002
CESK026-001
DEG. CONTROL
TP-E

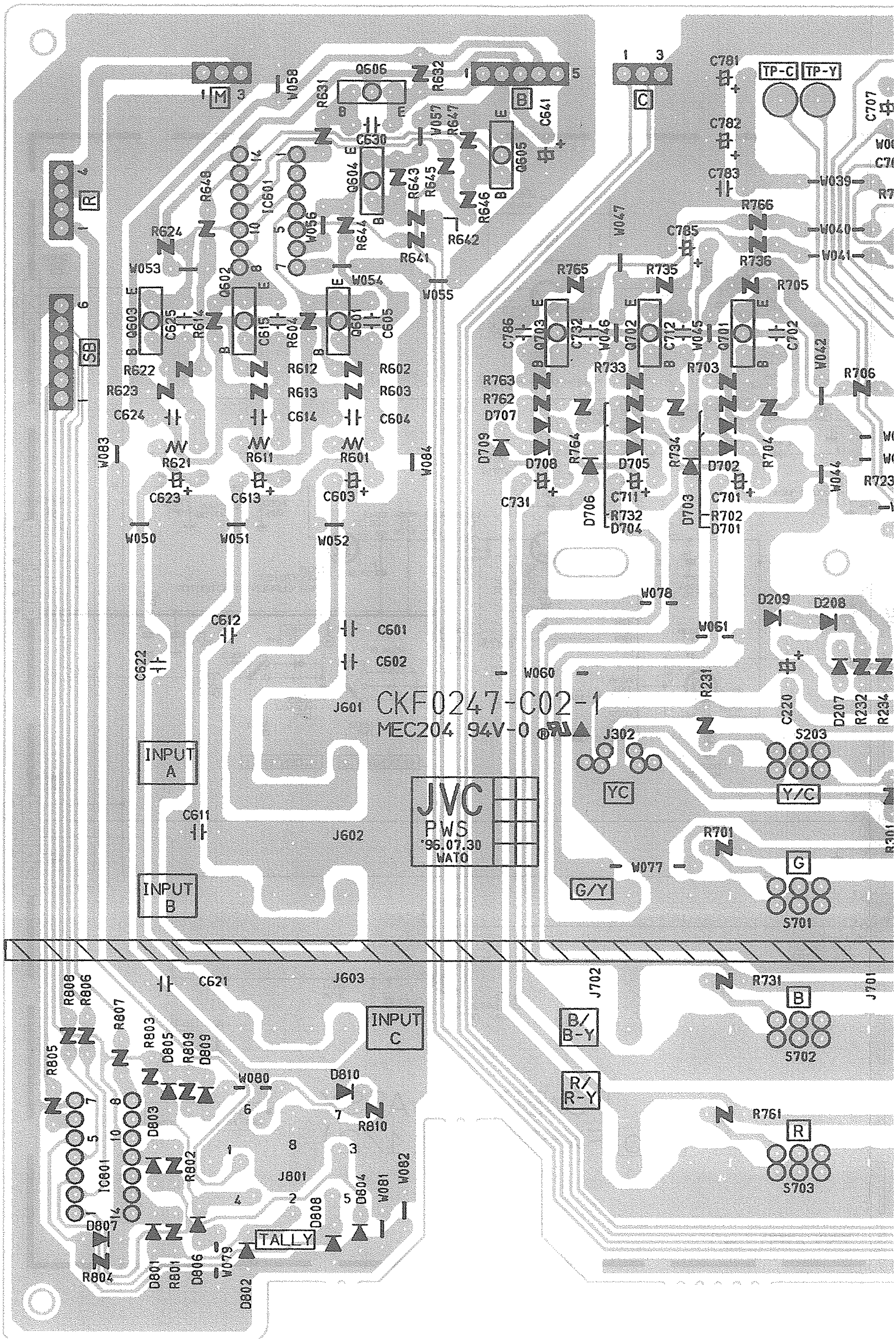
POWER PB ASSY

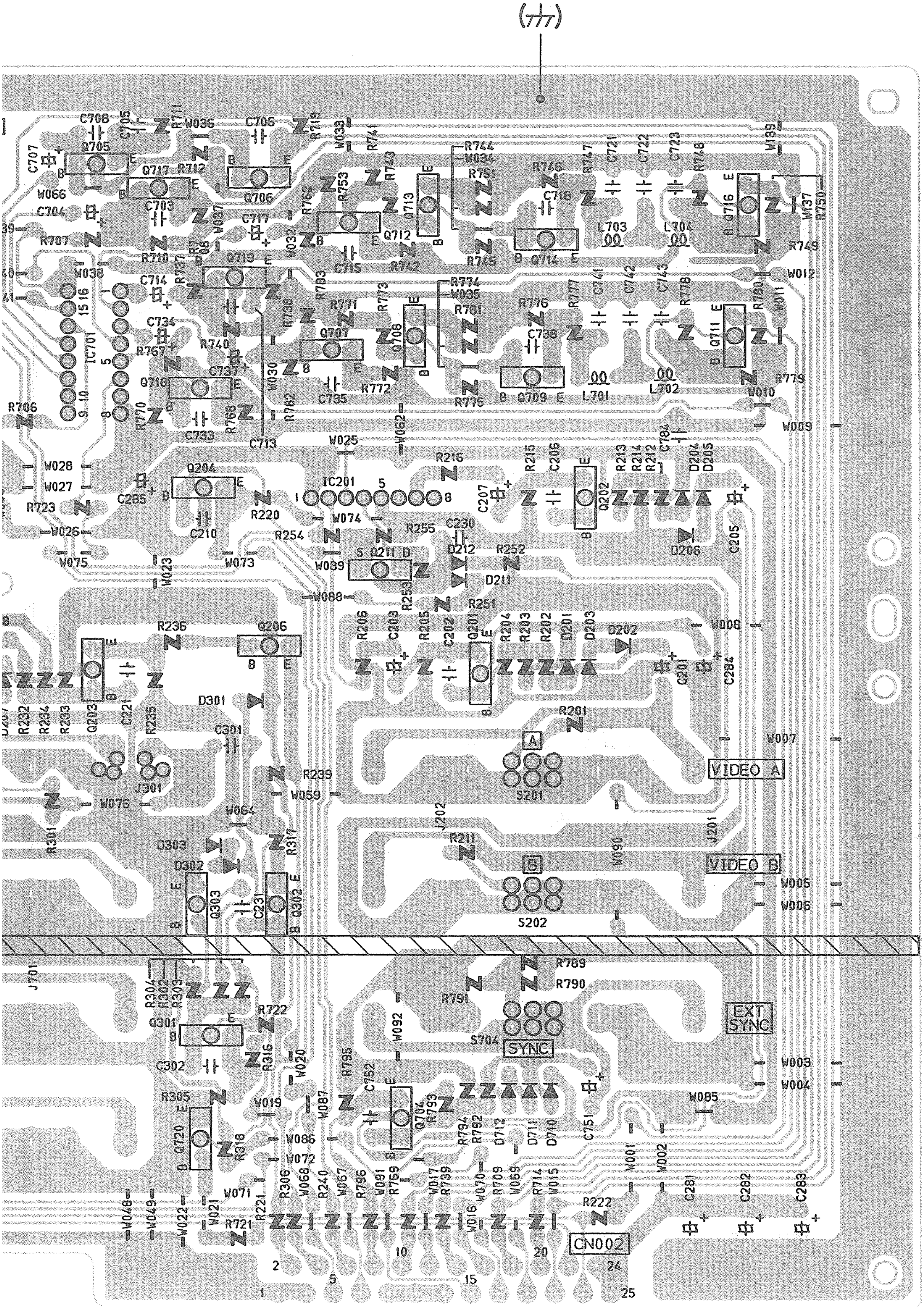
9 0 FX-9038A(1/2)

■ NOTICE
OPT: No part mounted

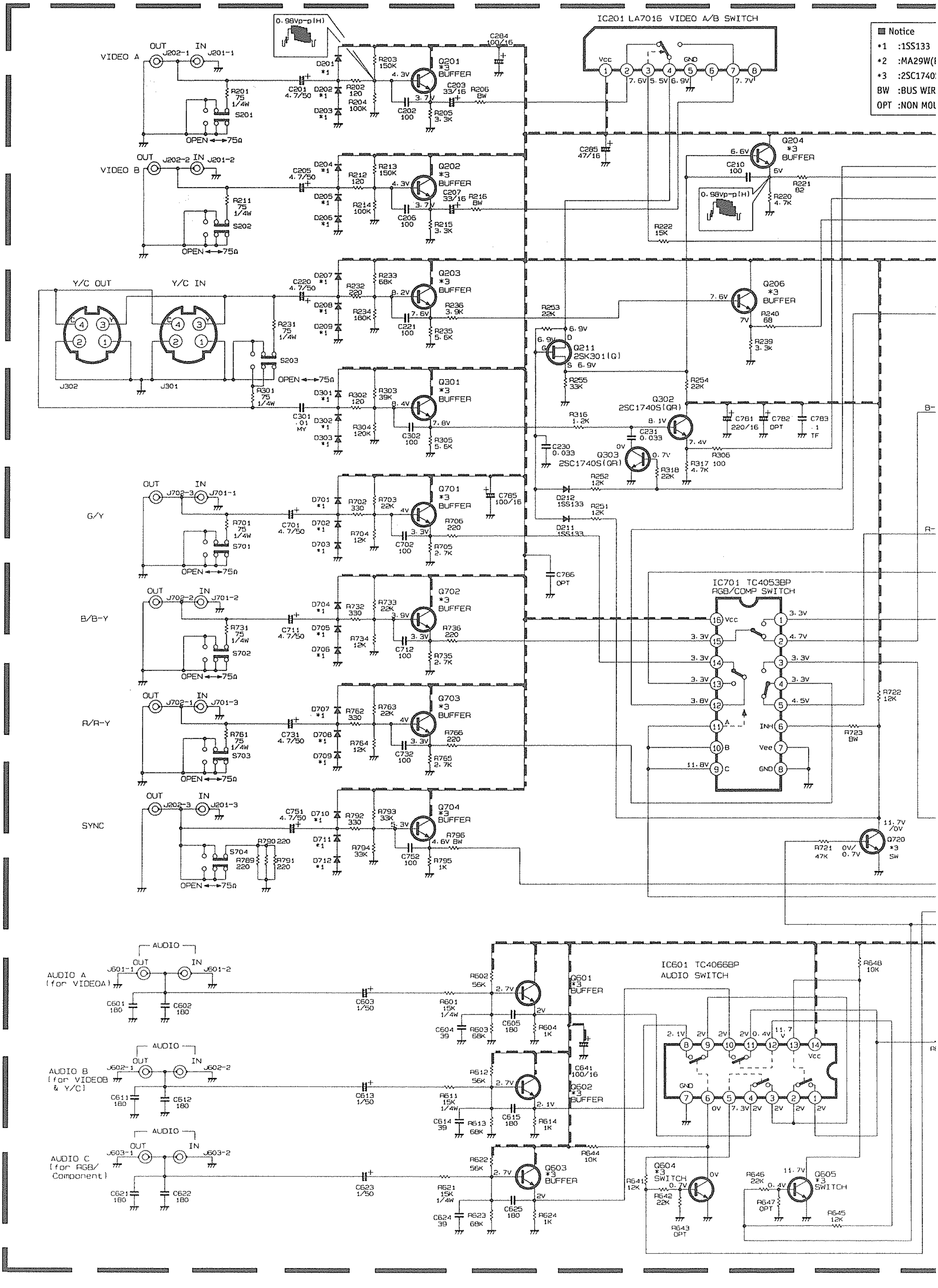
ISOLATED (⏚)

INPUT PWB PATTERN DIAGRAM (FX-6052A)

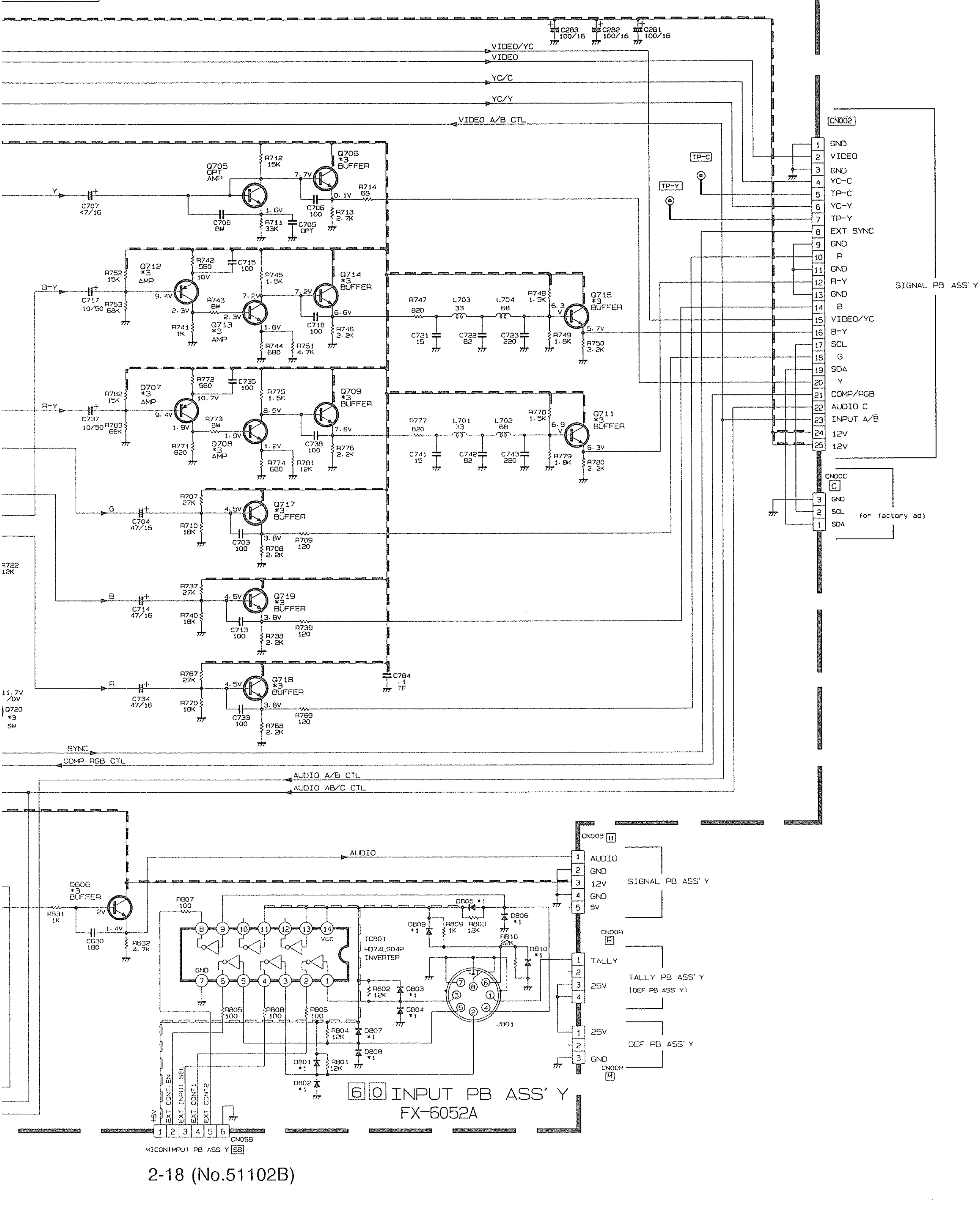

M
B
C
R
SB
TP-C
TP-Y
Q606
Q605
Q604
Q603
Q602
Q601
Q703
Q702
Q701
IC601
C781
C782
C783
C707
C785
R766
R736
R765
R735
R705
R706
W039
W040
W041
W042
W044
W047
W053
W054
W055
W056
W057
W058
W083
W084
W050
W051
W052
R631
R632
R647
R648
R643
R645
R646
R642
R641
R644
R624
C630
C641
C625
C615
C605
R614
R604
R622
R623
R612
R613
R602
R603
C624
C614
C604
R621
R611
R601
C623
C613
C603
C786
C732
C712
C702
W046
W045
R733
R703
R763
R762
D707
D709
D708
R764
D705
R734
D702
R704
R723
C731
D706
C711
R732
D704
D703
C701
R702
D701
W078
W061
D209
D208
W060
R231
C220
D207
R232
R234
S203
C612
C601
C602
C622
J601
CKF0247-C02-1
MEC204 94V-0
J302
YC
Y/C
INPUT A
INPUT B
INPUT C
C611
J602
JVC
PWS
'96.07.30
WATO
R701
W077
G/Y
G
S701
R301
C621
J603
J702
J701
R731
S702
B/B-Y
R/R-Y
R761
S703
R808
R806
R807
R803
D805
R809
D809
R805
W080
D810
R810
D803
IC801
R802
J801
D604
W081
W082
D807
D808
TALLY
R804
D801
R801
D806
W079
D802


(⏚)
C708
C705
R711
W036
C706
R713
W033
R741
R744
W034
R751
R746
R747
C721
C722
C723
R748
W139
C707
Q705
Q717
R712
Q706
R753
R743
Q713
C718
Q716
W137
R750
W066
C704
C703
W037
C717
R752
Q712
L703
L704
R707
R710
R708
Q719
W032
C715
R742
R745
Q714
R749
W038
C714
R737
R783
R774
W035
R771
R773
R781
R776
R777
C741
C742
C743
R778
R780
W011
W012
C734
IC701
R740
R736
Q707
Q708
C738
Q711
R767
C737
Q718
W030
R772
Q709
L701
L702
R779
W010
R706
R770
R768
R762
C735
R775
C733
C713
W025
W062
W009
R216
R215
C206
R213
R214
R212
C784
D204
D205
W028
Q204
W027
IC201
C207
Q202
R723
C285
R220
W074
R255
C230
C205
W026
C210
R254
D212
R252
D206
W075
W023
W073
Q211
W089
D211
W088
R253
R251
W008
R236
Q206
R206
C203
R205
C202
Q201
R204
R203
R202
D201
D203
D202
C201
C284
Q203
C221
D301
R232
R234
R233
R235
C301
R201
W007
A
S201
VIDEO A
J301
R239
W059
W076
R301
W064
J202
J201
D303
R317
R211
W090
D302
Q303
C231
Q302
B
VIDEO B
W005
W006
S202
J701
R789
R304
R302
R303
R791
R790
R722
Q301
EXT SYNC
R316
W092
S704
SYNC
C302
W020
R795
C752
W003
W004
R305
W019
W087
Q704
R793
W085
Q720
R318
W086
R794
R792
D712
D711
D710
C751
W001
W002
W072
R306
W068
R240
W067
R796
W091
R759
W017
R739
W070
R709
W069
R714
W015
W071
C281
C282
C283
W048
W049
W022
W021
R721
R221
W016
R222
CN002
1
2
5
10
15
20
24
25

INPUT PWB CIRCUIT DIAGRAM

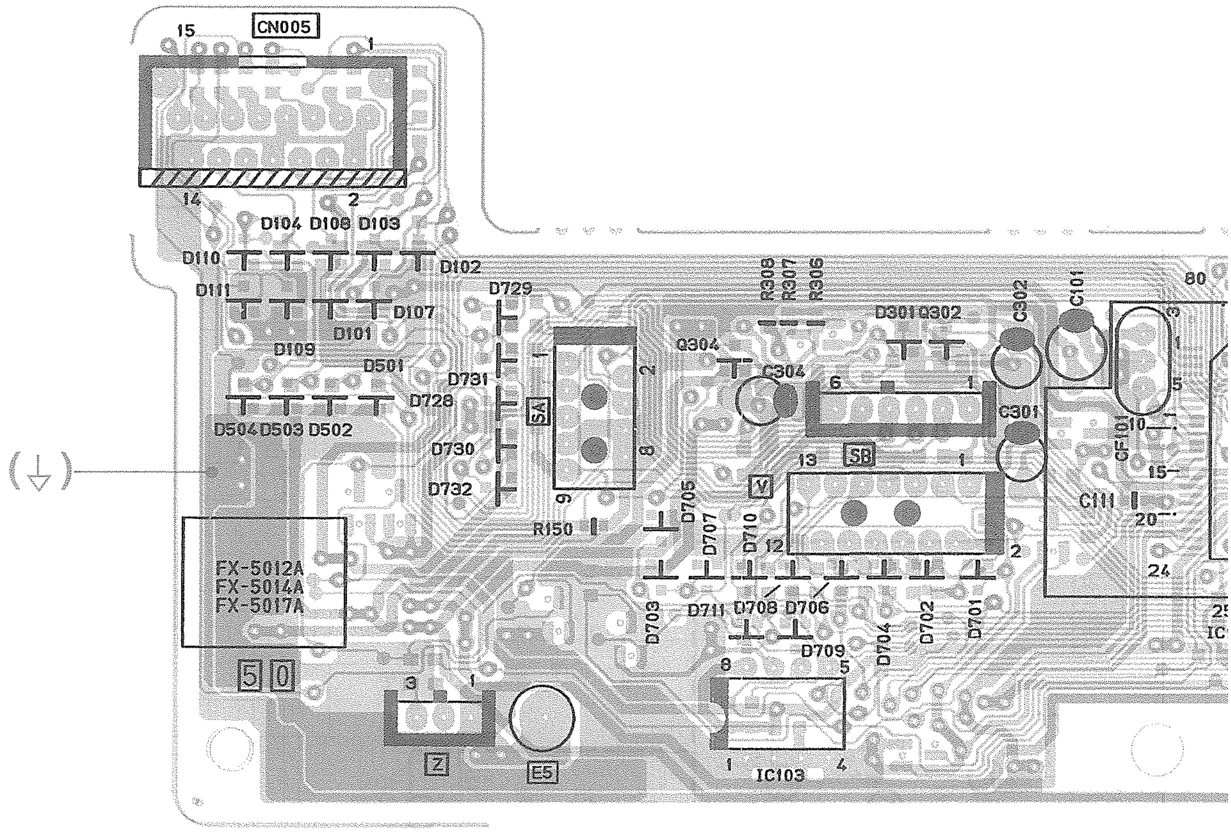

Notice
*1 :1SS133
*2 :MA29W(
*3 :2SC174
BW :BUS WIR
OPT :NON MOU
IC201 LA7016 VIDEO A/B SWITCH
VIDEO A
VIDEO B
Y/C OUT
Y/C IN
J302
J301
G/Y
B/B-Y
R/R-Y
SYNC
OPEN ⟷ 75Ω
0.98Vp-p(H)
Q201 *3 BUFFER
Q202 *3 BUFFER
Q203 *3 BUFFER
Q301 *3 BUFFER
Q204 *3 BUFFER
Q206 *3 BUFFER
Q211 2SK301(G)
Q302 2SC1740S(QR)
Q303 2SC1740S(QR)
Q701 *3 BUFFER
Q702 *3 BUFFER
Q703 *3 BUFFER
Q704 *3 BUFFER
Q720 *3 SW
D212 1SS133
D211 1SS133
IC701 TC4053BP RGB/COMP SWITCH
AUDIO
AUDIO A (for VIDEOA)
AUDIO B (for VIDEOB & Y/C)
AUDIO C (for RGB/Component)
IC601 TC4066BP AUDIO SWITCH
Q601 *3 BUFFER
Q602 *3 BUFFER
Q603 *3 BUFFER
Q604 *3 SWITCH
Q605 *3 SWITCH

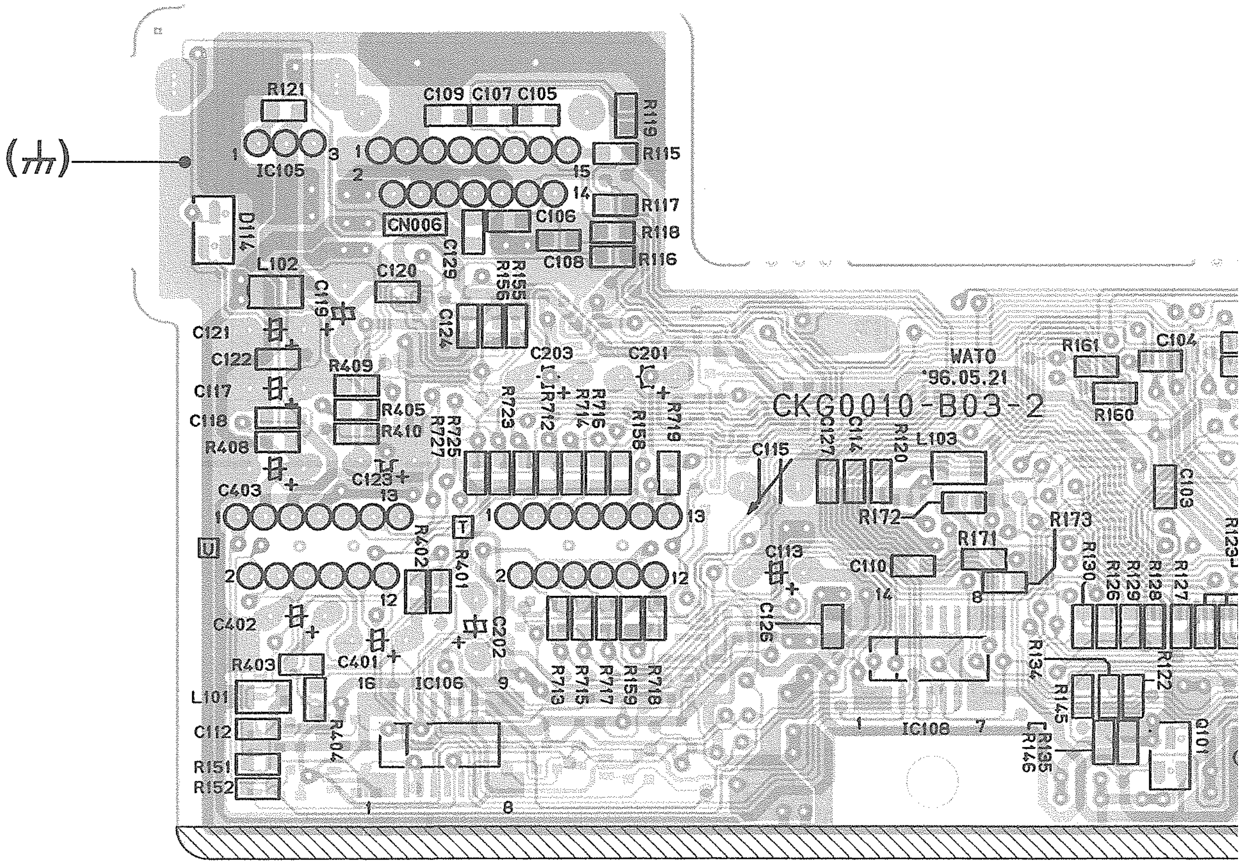
Notice
1 :1SS133
2 :MA29W(B)
3 :2SC1740S(R)
W :BUS WIRE
PT :NON MOUNT(OPEN)

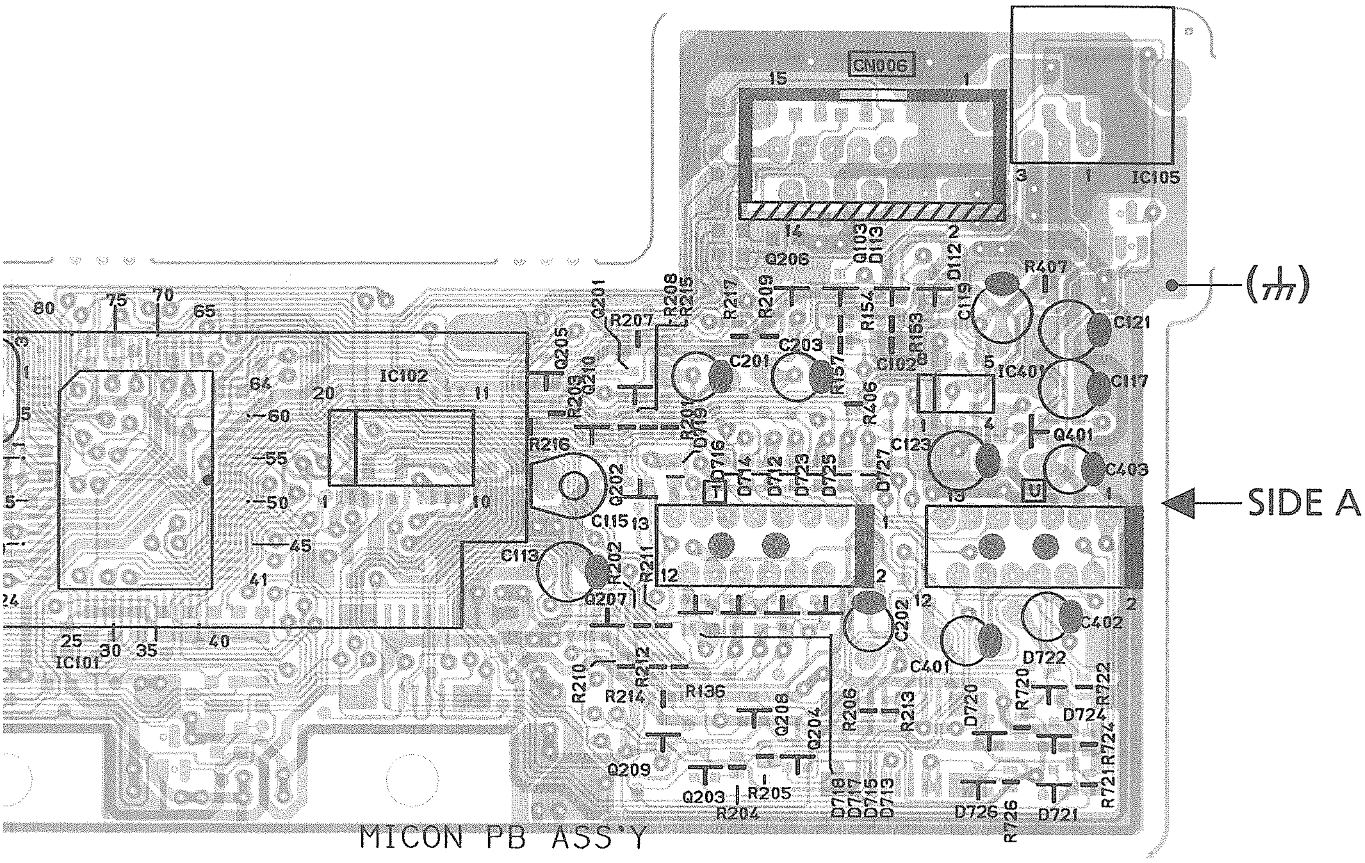

C283 100/16
C282 100/16
C281 100/16
VIDEO/YC
VIDEO
YC/C
YC/Y
VIDEO A/B CTL
CN002
1 GND
2 VIDEO
3 GND
4 YC-C
5 TP-C
6 YC-Y
7 TP-Y
8 EXT SYNC
9 GND
10 R
11 GND
12 R-Y
13 GND
14 B
15 VIDEO/YC
16 B-Y
17 SCL
18 G
19 SDA
20 Y
21 COMP/RGB
22 AUDIO C
23 INPUT A/B
24 12V
25 12V
SIGNAL PB ASS'Y
TP-C
TP-Y
CN00C C
3 GND
2 SCL
1 SDA
for factory adj
Q705 OPT AMP
Q706 *3 BUFFER
Q712 *3 AMP
Q713 *3 AMP
Q714 *3 BUFFER
Q716 *3 BUFFER
Q707 *3 AMP
Q708 *3 AMP
Q709 *3 BUFFER
Q711 *3 BUFFER
Q717 *3 BUFFER
Q719 *3 BUFFER
Q718 *3 BUFFER
Q720 *3 SW
Q606 *3 BUFFER
Y
B-Y
R-Y
G
B
R
SYNC
COMP RGB CTL
AUDIO A/B CTL
AUDIO AB/C CTL
AUDIO
C784 .1 TF
R722 12K
CN00B B
1 AUDIO
2 GND
3 12V
4 GND
5 5V
SIGNAL PB ASS'Y
CN00R R
1 TALLY
2
3 25V
4
TALLY PB ASS'Y (DEF PB ASS'Y)
1 25V
2
3 GND
CN00M M
DEF PB ASS'Y
IC801 HD74LS04P INVERTER
GND
Vcc
J801
+5V
EXT CONT EN
EXT INPUT SEL
EXT CONT1
EXT CONT2
CN05B
MICON(INPUT) PB ASS'Y 5B

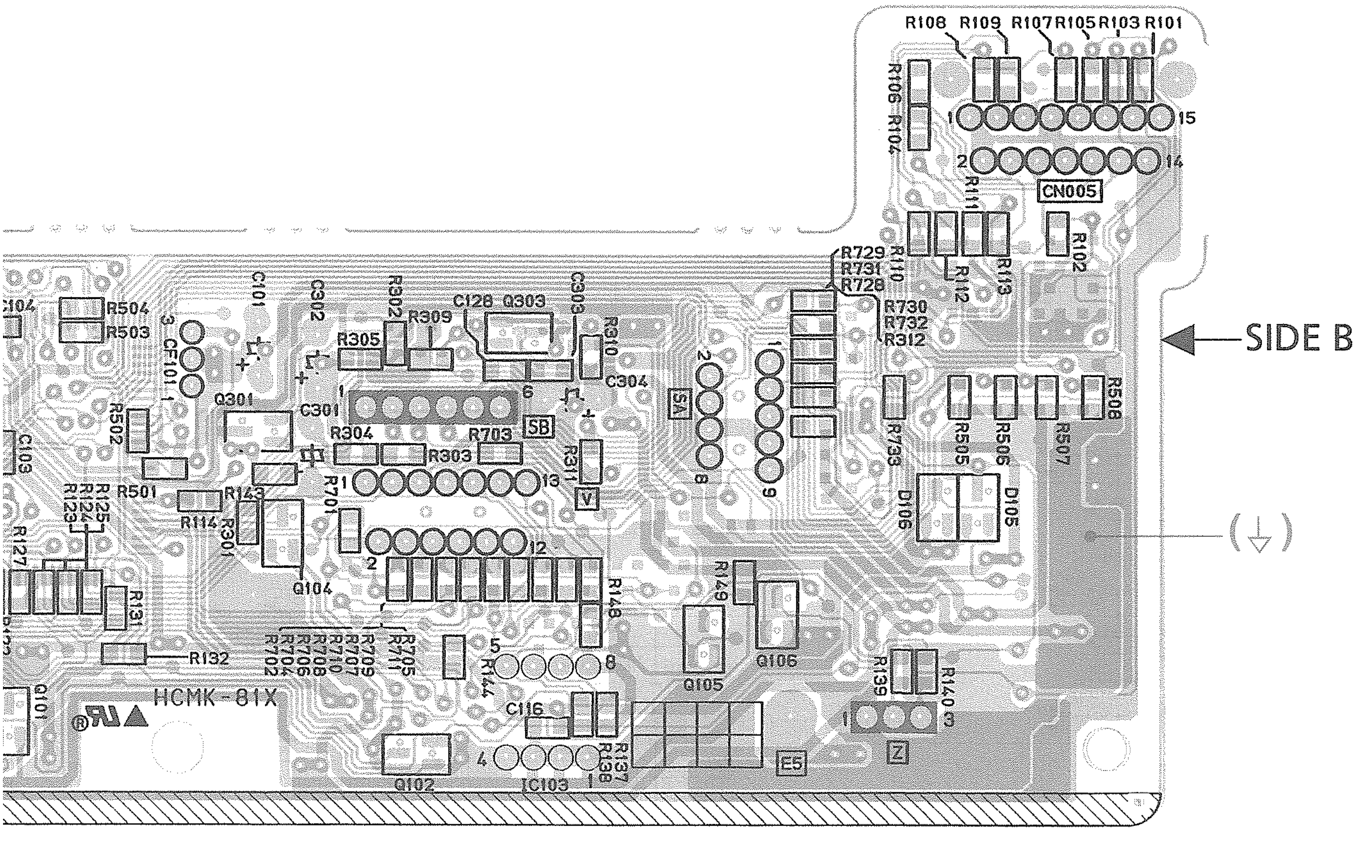
60 INPUT PB ASS'Y
FX-6052A

MICOM PWB PATTERN DIAGRAM (FX-5018A)


CN005
15
1
14
2
D104 D108 D103
D110
D102
D111
D107
D101
D109
D501
D504 D503 D502
D728
D729
D731
D730
D732
SA
R150
R308 R307 R306
Q304
C304
D301 Q302
C302
C101
C301
SB
V
D705
D707
D710
D703
D711 D708 D706
D709
D704
D702
D701
CF101
C111
80
IC103
FX-5012A
FX-5014A
FX-5017A
5 0
Z
E5
(⏚)

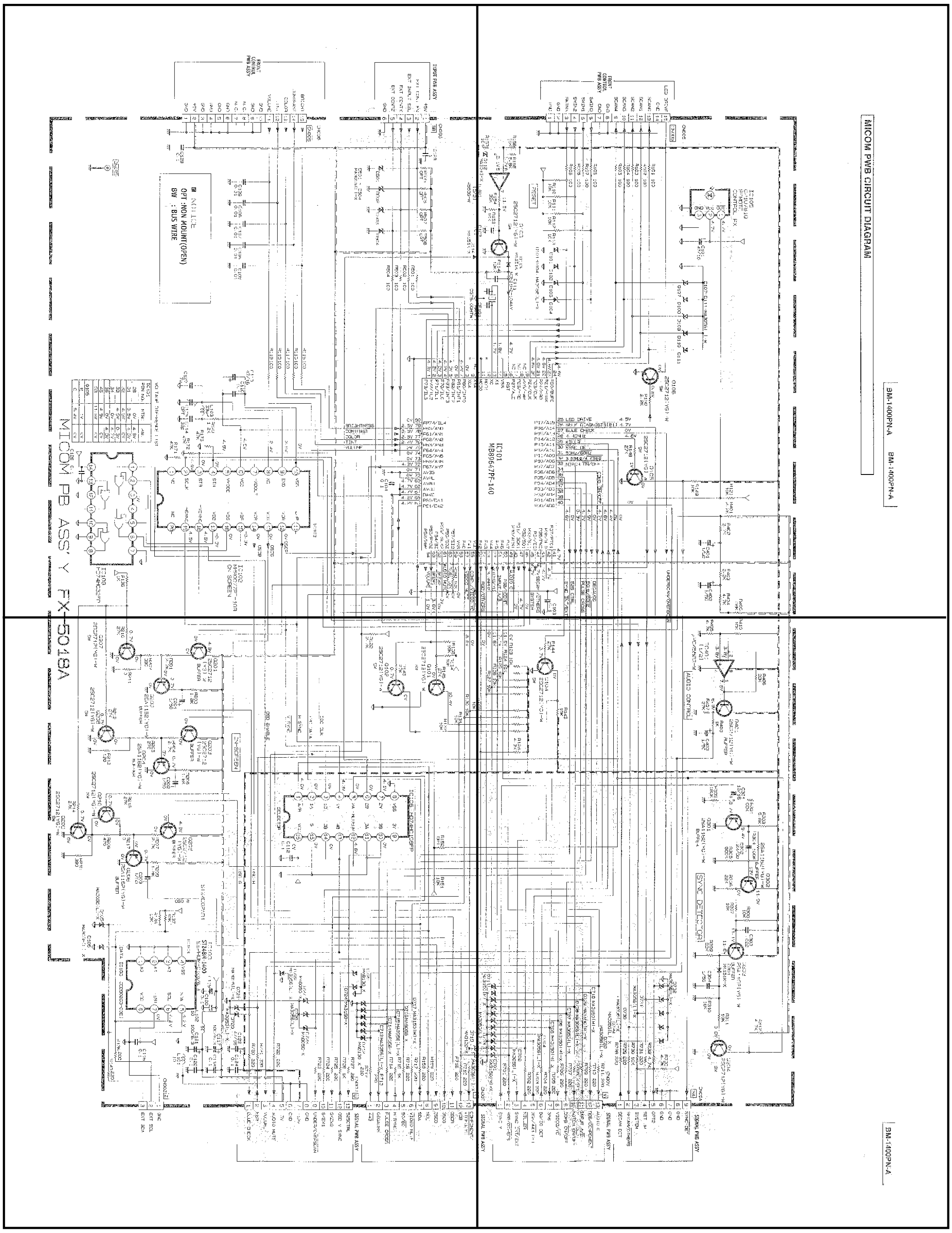

(⏚)
R121
IC105
C109 C107 C105
R119
R115
R117
R118
R116
CN006
C106
C108
C129
R155
R156
D114
L102
C120
C119
C121
C122
C117
C118
R408
R409
R405
R410
C124
C203
C201
R723
R712
R716
R714
R158
R719
R725
R727
C123
C403
C402
C401
R403
L101
C112
R151
R152
R404
R402
R401
T
U
IC106
C202
R713
R715
R717
R159
R718
WATO
'96.05.21
CKG0010-B03-2
C115
C127
C114
R120
L103
R172
C113
C110
C126
IC108
R161
C104
R160
C103
R173
R171
R130
R126
R129
R128
R127
R123
R134
R145
R122
R135
R146
Q101


CN006
IC105
(⏚)
IC102
IC101
IC401
Q401
C121
C117
C119
R407
C203
C201
C102
C123
C403
C113
C115
C202
C401
C402
D722
D720
D724
D721
D726
Q207
Q209
Q203
Q204
Q208
Q202
Q205
Q206
Q201
R216
R136
R205
R204
SIDE A
MICON PB ASS'Y


R108 R109 R107 R105 R103 R101
R106 R104
CN005
R102
R111
R112
R113
R110
R729 R731 R728
R730 R732 R312
SIDE B
(⏚)
R504 R503
CF101
C101
C302
R302
R309
C128
Q303
C303
R310
R305
C304
Q301
C301
SB
R304
R303
R703
R331
V
R502
C103
R501
R143
R114
R301
R701
Q104
R127
R131
R132
R705 R711 R709 R707 R710 R708 R706 R704 R702
R148
R149
R144
R139 R140
Q105
Q106
R733
R505 R506 R507 R508
D106 D105
HCMK-81X
Q101
C116
Q102
IC103
R137 R138
E5
Z

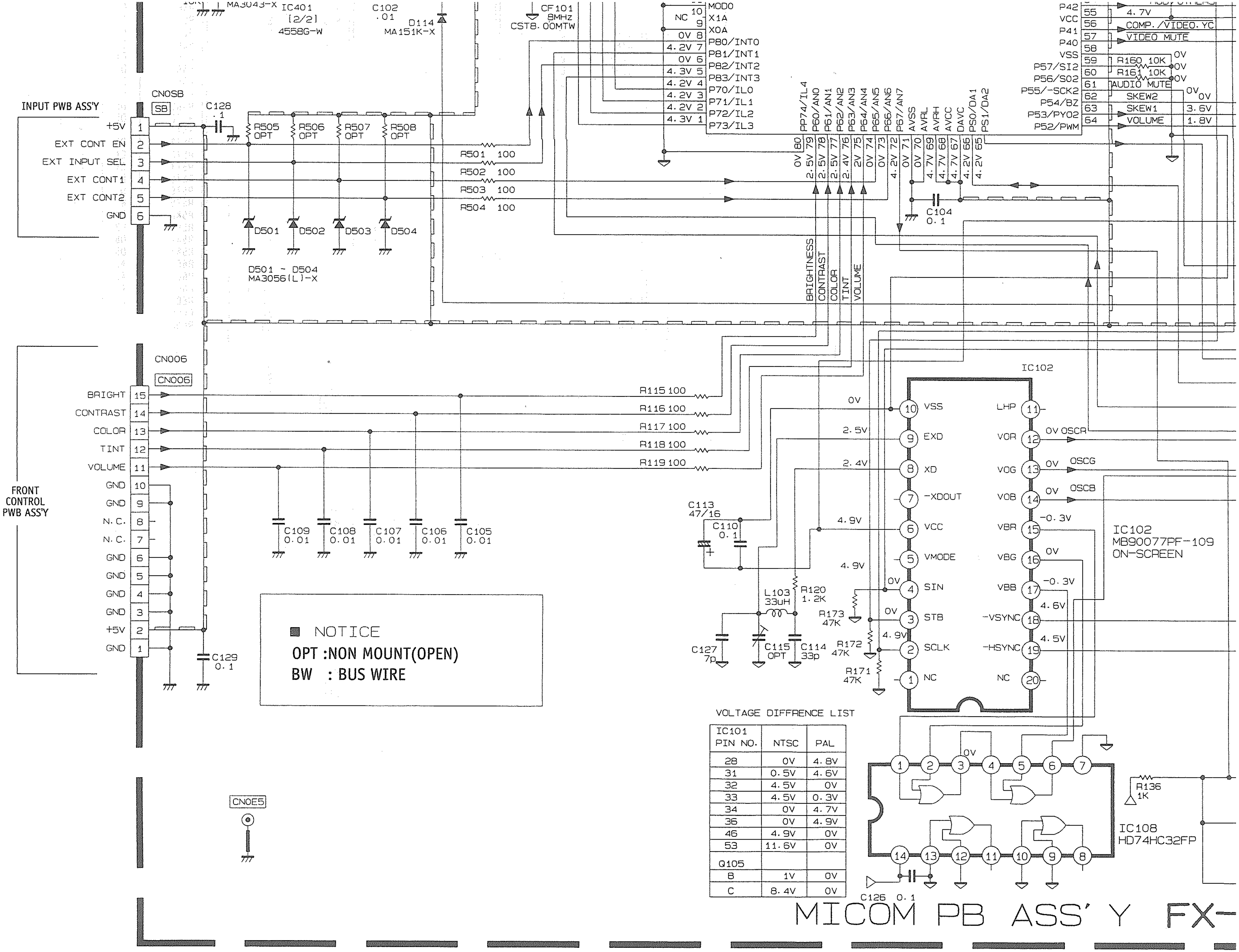
P2-21,22,23-a

P2-21,22,23-b


MICOM PWB CIRCUIT DIAGRAM
MICOM PB ASS'Y FX-5018A
IC101
MB89647PF-160
BM-1400PN-A
SYNC DETECTOR
AUDIO CONTROL

P2-21,22,23-c

P2-21,22,23-d


INPUT PWB ASS'Y
CN05B
SB
+5V
EXT CONT EN
EXT INPUT SEL
EXT CONT1
EXT CONT2
GND
C128 .1
R505 OPT
R506 OPT
R507 OPT
R508 OPT
D501
D502
D503
D504
D501 ~ D504 MA3056(L)-X
R501 100
R502 100
R503 100
R504 100
MA3043-X
IC401 (2/2) 4558G-W
C102 .01
D114 MA151K-X
CF101 8MHz CSTB.00MTW
MOD0
X1A
XOA
P80/INT0
P81/INT1
P82/INT2
P83/INT3
P70/IL0
P71/IL1
P72/IL2
P73/IL3
PP74/IL4
P60/AN0
P61/AN1
P62/AN2
P63/AN3
P64/AN4
P65/AN5
P66/AN6
P67/AN7
AVSS
AVRL
AVRH
AVCC
DAVC
PS0/DA1
PS1/DA2
BRIGHTNESS
CONTRAST
COLOR
TINT
VOLUME
C104 0.1
P42
VCC
P41
P40
VSS
P57/SI2
P56/SO2
P55/-SCK2
P54/BZ
P53/PYO2
P52/PWM
4.7V
COMP./VIDEO.YC
VIDEO MUTE
R160 10K
R161 10K
AUDIO MUTE
SKEW2
SKEW1
VOLUME
3.6V
1.8V
FRONT CONTROL PWB ASS'Y
CN006
BRIGHT
CONTRAST
COLOR
TINT
VOLUME
GND
N.C.
+5V
R115 100
R116 100
R117 100
R118 100
R119 100
C109 0.01
C108 0.01
C107 0.01
C106 0.01
C105 0.01
C129 0.1
CN0E5
IC102
VSS
EXD
XD
-XDOUT
VCC
VMODE
SIN
STB
SCLK
NC
LHP
VOR
VOG
VOB
VBR
VBG
VBB
-VSYNC
-HSYNC
OSCR
OSCG
OSCB
IC102 MB90077PF-109 ON-SCREEN
C113 47/16
C110 0.1
L103 33uH
R120 1.2K
R173 47K
R172 47K
R171 47K
C127 7p
C115 OPT
C114 33p
IC108 HD74HC32FP
R136 1K
C126 0.1

■ NOTICE

OPT :NON MOUNT(OPEN)

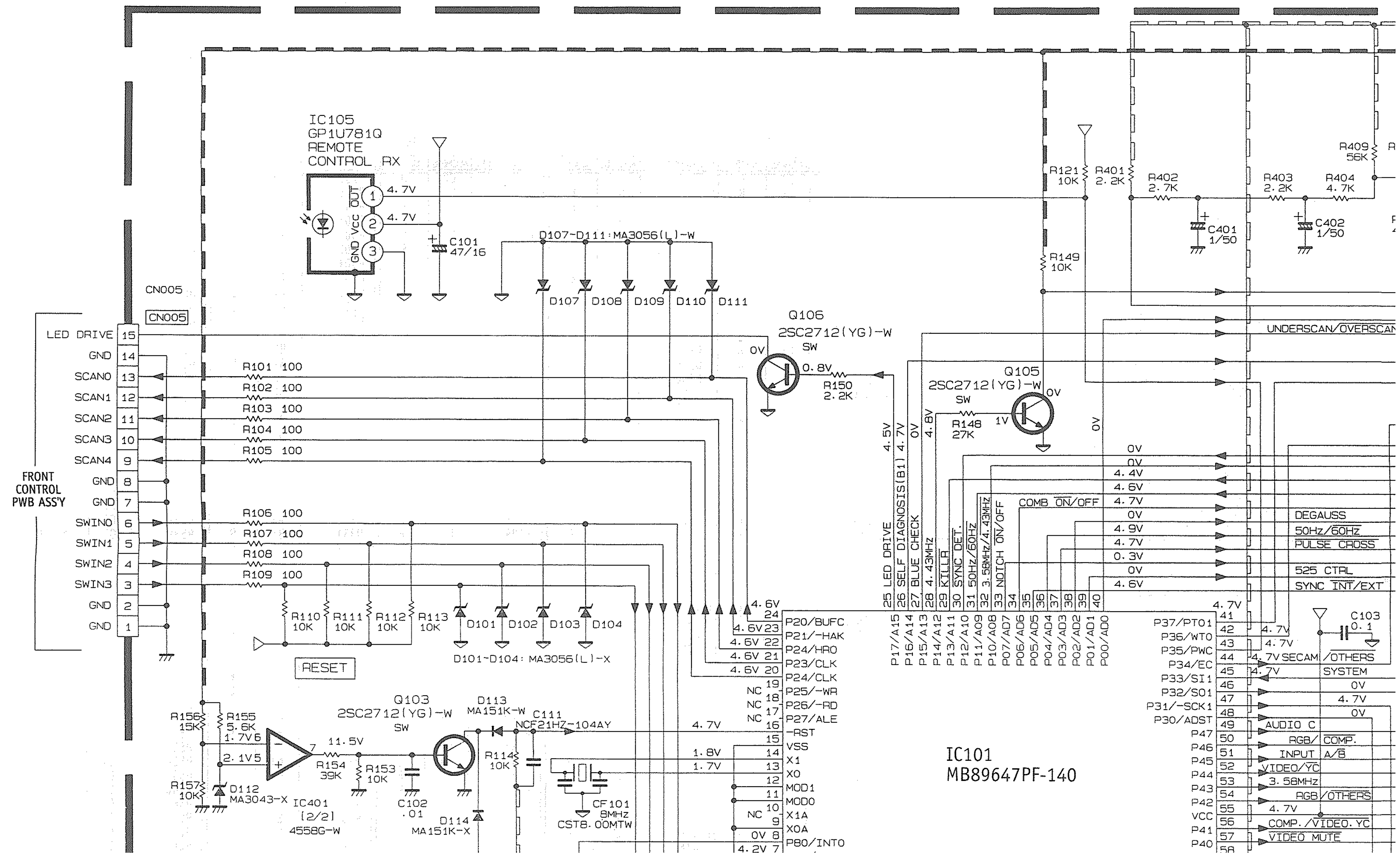
BW : BUS WIRE

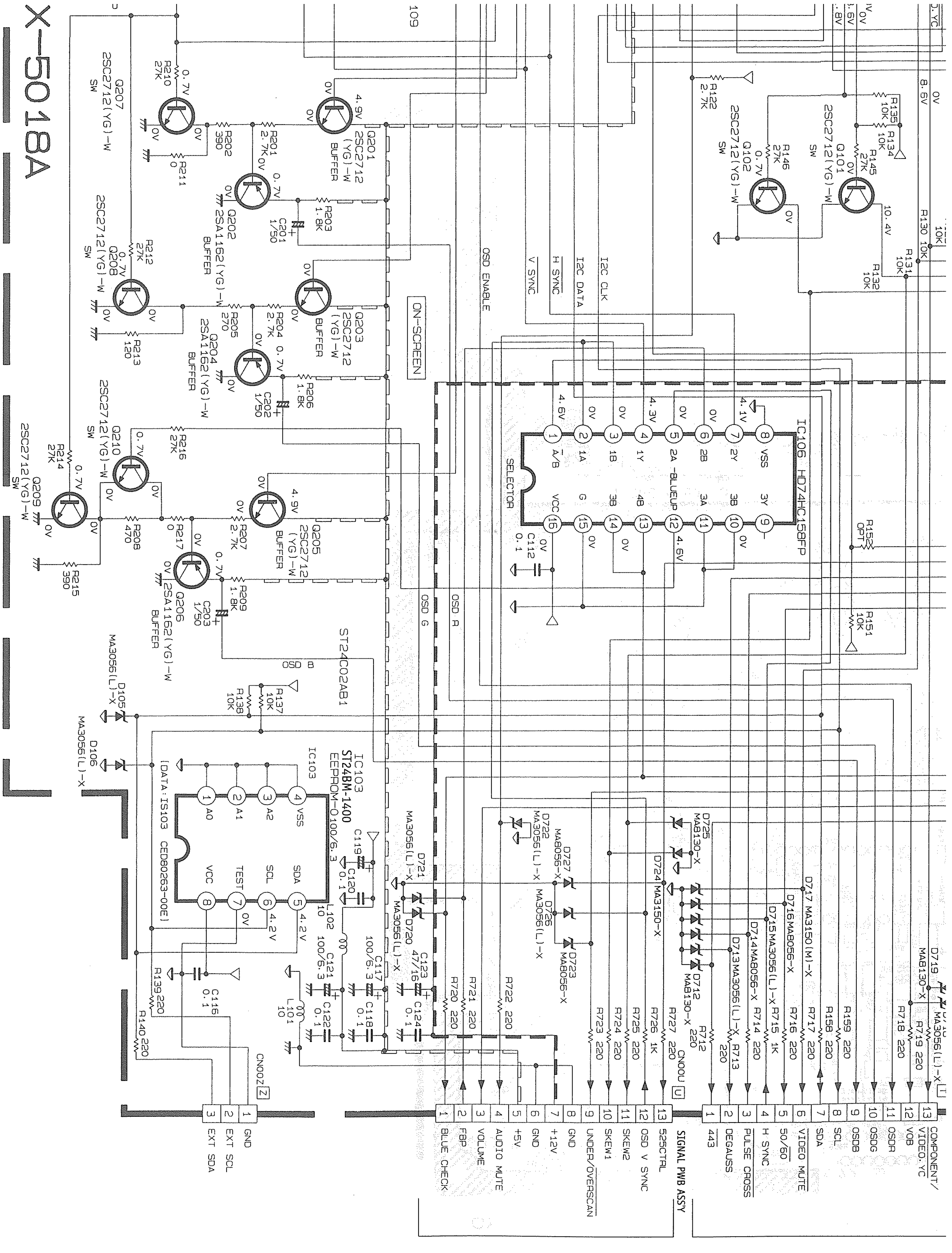
VOLTAGE DIFFRENCE LIST

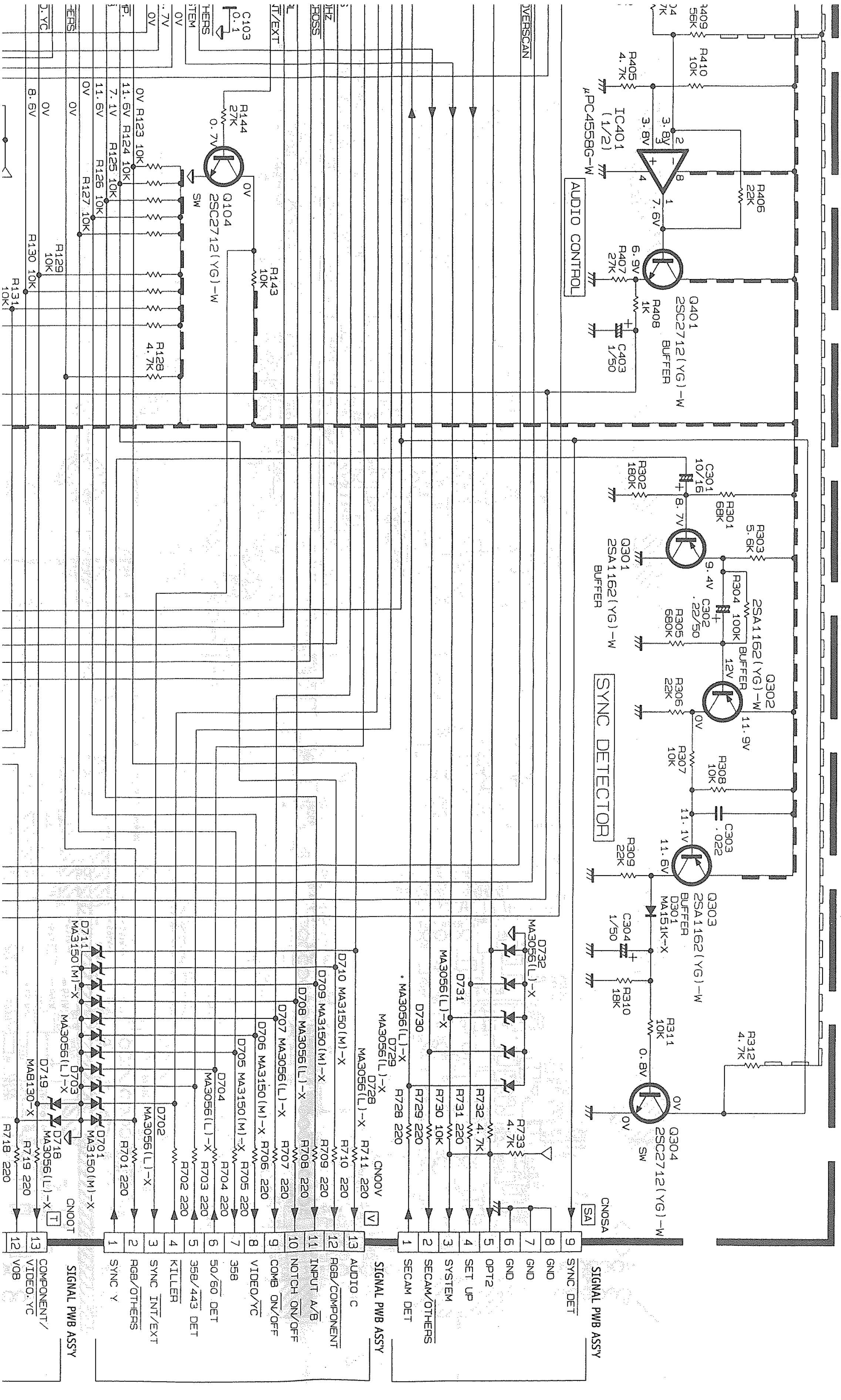
IC101 PIN NO.	NTSC	PAL
28	0V	4.8V
31	0.5V	4.6V
32	4.5V	0V
33	4.5V	0.3V
34	0V	4.7V
36	0V	4.9V
46	4.9V	0V
53	11.6V	0V
Q105		
B	1V	0V
C	8.4V	0V

MICOM PB ASS' Y FX-

MICOM PWB CIRCUIT DIAGRAM

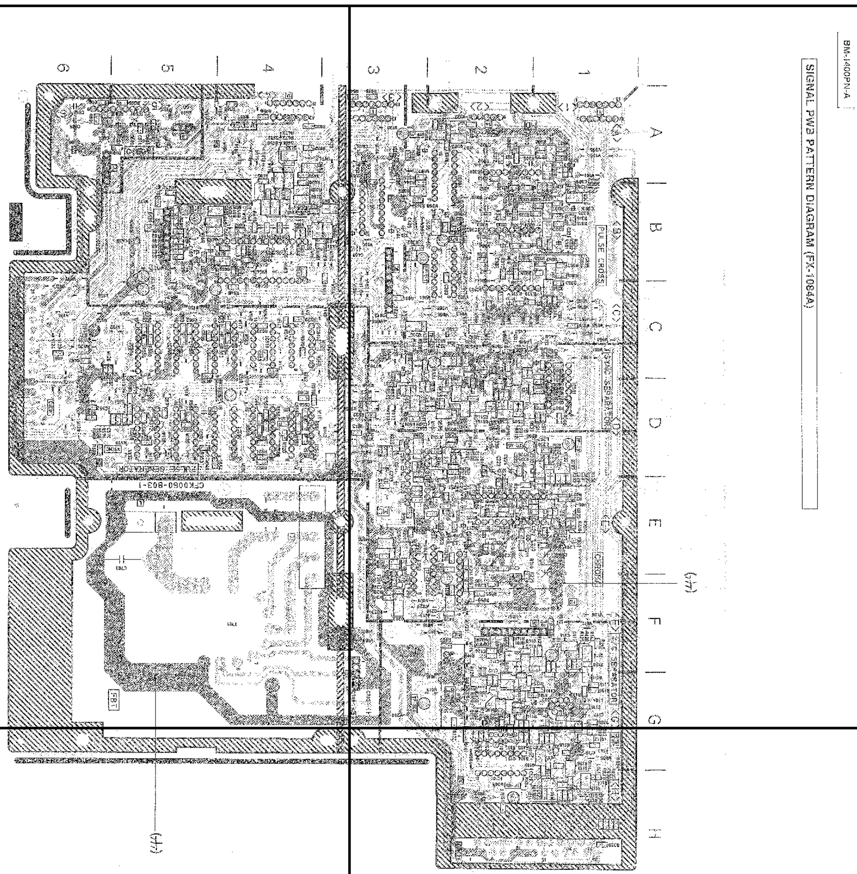

FRONT CONTROL PWB ASS'Y
CN005
LED DRIVE 15
GND 14
SCAN0 13
SCAN1 12
SCAN2 11
SCAN3 10
SCAN4 9
GND 8
GND 7
SWIN0 6
SWIN1 5
SWIN2 4
SWIN3 3
GND 2
GND 1
IC105 GP1U781Q REMOTE CONTROL RX
OUT 1 4.7V
Vcc 2 4.7V
GND 3
C101 47/16
D107-D111: MA3056(L)-W
D107 D108 D109 D110 D111
R101 100
R102 100
R103 100
R104 100
R105 100
R106 100
R107 100
R108 100
R109 100
R110 10K
R111 10K
R112 10K
R113 10K
RESET
D101 D102 D103 D104
D101-D104: MA3056(L)-X
Q106 2SC2712(YG)-W SW
0V
0.8V
R150 2.2K
Q105 2SC2712(YG)-W SW
R148 27K
1V
R149 10K
R121 10K
R401 2.2K
R402 2.7K
C401 1/50
R403 2.2K
R404 4.7K
C402 1/50
R409 56K
Q103 2SC2712(YG)-W SW
D113 MA151K-W
C111 NCF21HZ-104AY
R156 15K
R155 5.6K
1.7V6
2.1V5
R157 10K
D112 MA3043-X
IC401 [2/2] 4558G-W
11.5V
R154 39K
R153 10K
C102 .01
D114 MA151K-X
R114 10K
CF101 8MHz CST8.00MTW
IC101 MB89647PF-140
4.6V 24 P20/BUFC
4.6V 23 P21/-HAK
4.6V 22 P24/HRO
4.6V 21 P23/CLK
4.6V 20 P24/CLK
NC 19 P25/-WR
NC 18 P26/-RD
NC 17 P27/ALE
4.7V 16 -RST
15 VSS
1.8V 14 X1
1.7V 13 X0
12 MOD1
11 MOD0
NC 10 X1A
9 X0A
0V 8 PB0/INT0
4.2V 7
25 LED DRIVE 4.5V P17/A15
26 SELF DIAGNOSIS(B1) 4.7V P16/A14
27 BLUE CHECK 0V P15/A13
28 4.43MHz 4.8V P14/A12
29 KILLR P13/A11
30 SYNC DET. P12/A10
31 50Hz/60Hz P11/A09
32 3.58MHz/4.43MHz P10/A08
33 NOTCH ON/OFF P07/AD7
34 P06/AD6
35 P05/AD5
36 P04/AD4
37 P03/AD3
38 P02/AD2
39 P01/AD1
40 P00/AD0
COMB ON/OFF
0V
0V
4.4V
4.6V
4.7V
0V
4.9V
4.7V
0.3V
0V
4.6V
0V
UNDERSCAN/OVERSCAN
DEGAUSS
50Hz/60Hz
PULSE CROSS
525 CTRL
SYNC INT/EXT
4.7V 41 P37/PT01
42 P36/WT0 4.7V
43 P35/PWC 4.7V
44 P34/EC 4.7V SECAM/OTHERS
45 P33/SI1 4.7V SYSTEM
46 P32/SO1 0V
47 P31/-SCK1 4.7V
48 P30/ADST 0V
49 P47 AUDIO C
50 P46 RGB/COMP.
51 P45 INPUT A/B
52 P44 VIDEO/YC
53 P43 3.58MHz
54 P42 RGB/OTHERS
55 VCC 4.7V
56 P41 COMP./VIDEO.YC
57 P40 VIDEO MUTE
58
C103 0.1

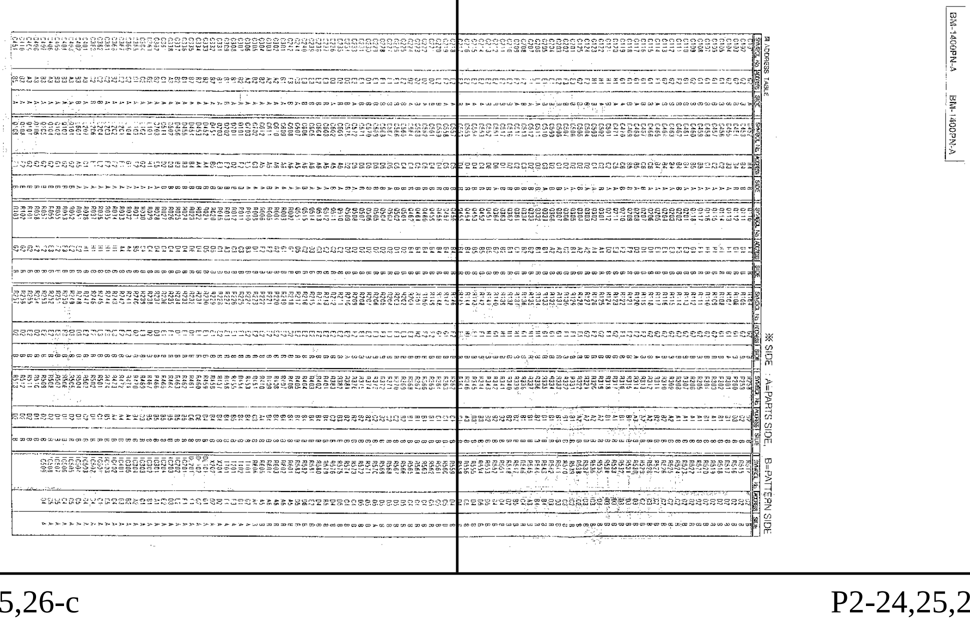

X-5018A
Q207 2SC2712(YG)-W SW
Q201 2SC2712 (YG)-W BUFFER
Q202 2SA1162(YG)-W BUFFER
Q208 2SC2712(YG)-W SW
Q203 2SC2712 (YG)-W BUFFER
Q204 2SA1162(YG)-W BUFFER
Q210 2SC2712(YG)-W SW
Q209 2SC2712(YG)-W SW
Q205 2SC2712 (YG)-W BUFFER
Q206 2SA1162(YG)-W BUFFER
Q101 2SC2712(YG)-W SW
Q102 2SC2712(YG)-W SW
ON-SCREEN
OSD ENABLE
V SYNC
H SYNC
I2C DATA
I2C CLK
OSD G
OSD R
OSD B
ST24C02AB1
IC106 HD74HC158FP SELECTOR
IC103 ST24BM-1400 EEPROM
[DATA:IS103 CED80263-00E]
A0 A1 A2 VSS VCC TEST SCL SDA
R210 27K
R202 390
R211 0
R201 2.7K
R203 1.8K
C201 1/50
R212 27K
R205 270
R204 2.7K
R213 120
R206 1.8K
C202 1/50
R216 27K
R214 27K
R208 470
R217 0
R207 2.7K
R215 390
R209 1.8K
C203 1/50
R137 10K
R138 10K
D105 MA3056(L)-X
D106 MA3056(L)-X
R139 220
R140 220
C116 0.1
C119 0.100/6.3
C120 0.1
L102 10
C121 100/6.3
C117 100/6.3
C122 0.1
C118 0.1
L101 10
C123 47/16
C124 0.1
D721 MA3056(L)-X
D720 MA3056(L)-X
D722 MA3056(L)-X
D727 MA8056-X
D726 MA3056(L)-X
D723 MA8056-X
D724 MA3150-X
D725 MA8130-X
D717 MA3150(M)-X
D716 MA8056-X
D715 MA3056(L)-X
D714 MA8056-X
D713 MA3056(L)-X
D712 MA8130-X
D719 MA8130-X
D718 MA3056(L)-X
R720 220
R721 220
R722 220
R723 220
R724 220
R725 220
R726 1K
R727 220
R712 220
R713 220
R714 220
R715 1K
R716 220
R717 220
R158 220
R159 220
R718 220
R719 220
R122 2.7K
R146 27K
R145 27K
R135 10K
R134 10K
R130 10K
R131 10K
R132 10K
R152 OPT
R151 10K
C112 0.1
CN002 Z
1 GND
2 EXT SCL
3 EXT SDA
CN00U U
1 BLUE CHECK
2 FBP
3 VOLUME
4 AUDIO MUTE
5 +5V
6 GND
7 +12V
8 GND
9 UNDER/OVERSCAN
10 SKEW1
11 SKEW2
12 OSD V SYNC
13 525CTRL
SIGNAL PWB ASSY
1 443
2 DEGAUSS
3 PULSE CROSS
4 H SYNC
5 50/60
6 VIDEO MUTE
7 SDA
8 SCL
9 OSDB
10 OSDG
11 OSDR
12 VOB
13 COMPONENT/VIDEO.YC
109


AUDIO CONTROL
SYNC DETECTOR
IC401 (1/2) μPC4558G-W
Q401 2SC2712(YG)-W BUFFER
Q104 2SC2712(YG)-W SW
Q301 2SA1162(YG)-W BUFFER
Q302 2SA1162(YG)-W BUFFER
Q303 2SA1162(YG)-W BUFFER
Q304 2SC2712(YG)-W SW
D301 MA151K-X
CN00T
CN00V
CN05A
SIGNAL PWB ASSY
12 VDB
13 COMPONENT/VIDEO.YC
1 SYNC Y
2 RGB/OTHERS
3 SYNC INT/EXT
4 KILLER
5 358/443 DET
6 50/60 DET
7 358
8 VIDEO/YC
9 COMB ON/OFF
10 NOTCH ON/OFF
11 INPUT A/B
12 RGB/COMPONENT
13 AUDIO C
1 SECAM DET
2 SECAM/OTHERS
3 SYSTEM
4 SET UP
5 OPT2
6 GND
7 GND
8 GND
9 SYNC DET
OVERSCAN

BM-1400PN-A

P2-24,25,26-a P2-24,25,26-b

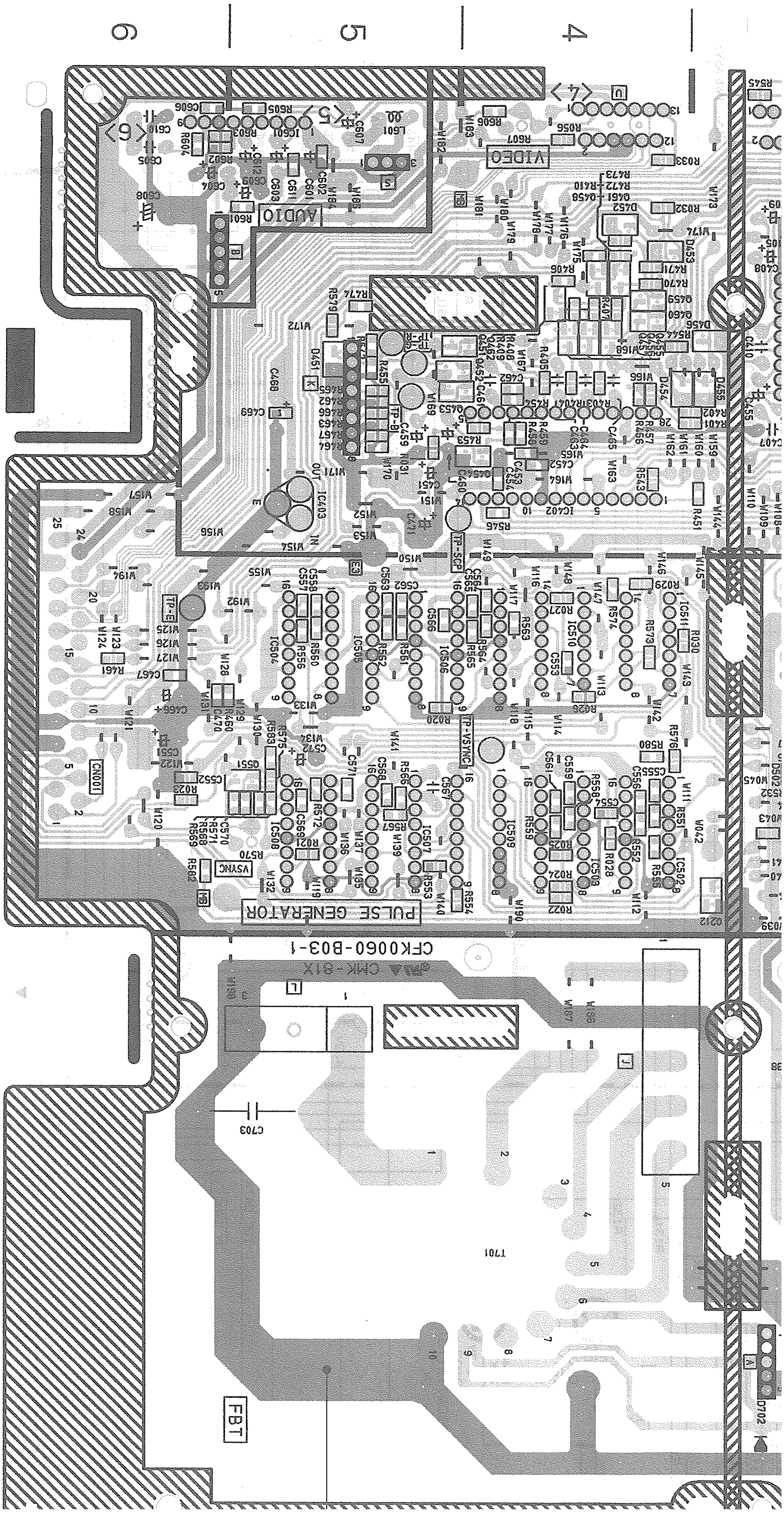

BM-1400PN-A
SIGNAL PWB PATTERN DIAGRAM (FX-1084A)
A
B
C
D
E
F
G
H
1
2
3
4
5
6
PULSE CROSS
SYNC SEPARATOR
FBT
(ｱ)
(ｲ)


BM-1400PN-A
BM-1400PN-A

ADDRESS TABLE

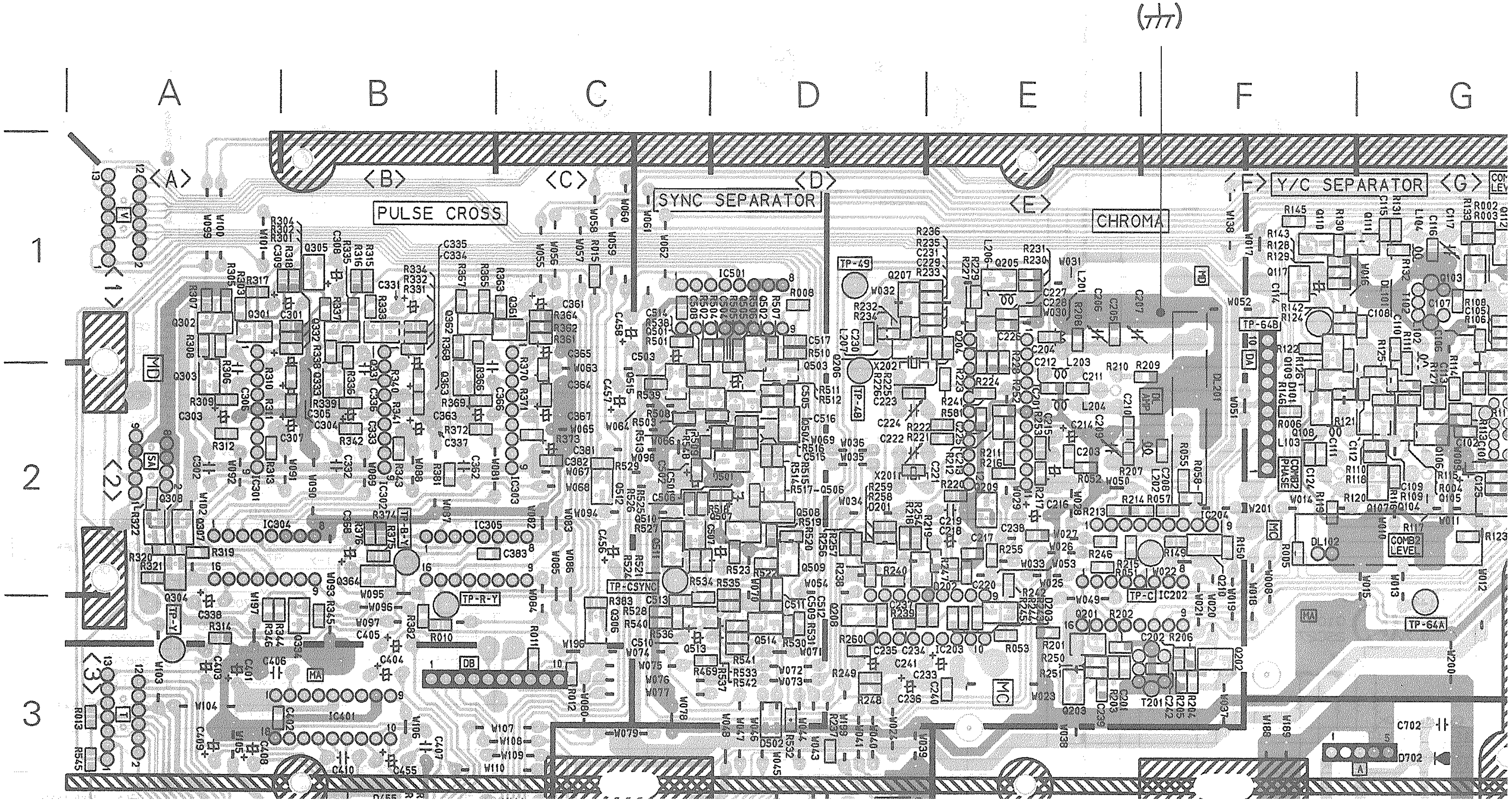
※ SIDE : A=PARTS SIDE, B=PATTERN SIDE

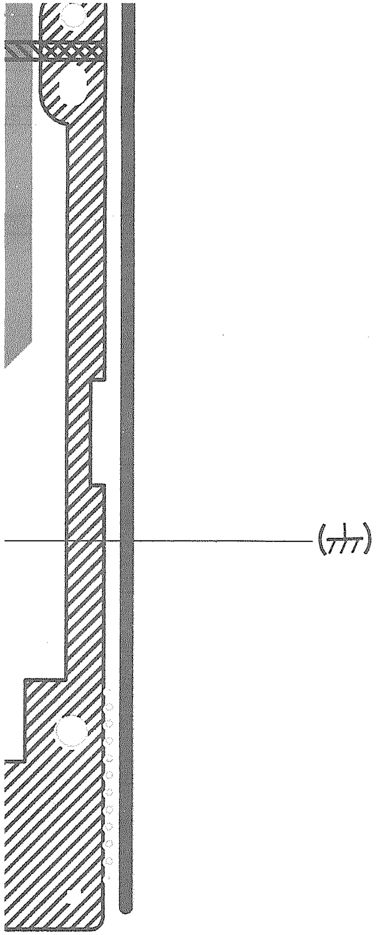
P2-24,25,26-c P2-24,25,26-d


4
5
6
VIDEO
AUDIO
PULSE GENERATOR
CFK0060-B03-1
CMK-81X
CN001
IC403
IC402
IC504
IC505
IC506
IC510
IC511
IC507
IC508
IC509
IC502
IC601
TP-E
TP-B
TP-SCP
TP-VSYNC
VSYNC
T701
C703
FBT
D702

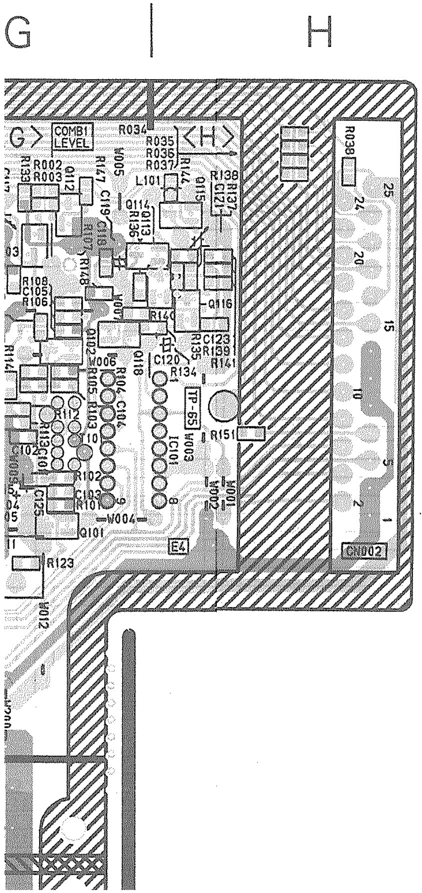
P2-24,25,26-a

SIGNAL PWB PATTERN DIAGRAM (FX-1084A)


(ﾅﾅ)
A
B
C
D
E
F
G
1
2
3
<A>
<B>
<C>
<D>
<E>
<F>
<G>
<1>
<2>
<3>
PULSE CROSS
SYNC SEPARATOR
CHROMA
Y/C SEPARATOR
TP-Y
TP-B-Y
TP-R-Y
TP-CSYNC
TP-49
TP-48
TP-C
TP-64B
TP-64A
IC301
IC302
IC303
IC304
IC305
IC401
IC501
IC202
IC203
IC204
DL201
DL101
DL102
COMB2 PHASE
COMB2 LEVEL
DB
DA
MD
MA
MC
5A
V
T
A
C702
D702



C217	E2	B	C556	D4	B	Q455	B4	B	R145	F1	B	R361	C1	B	R558	D4	B
C218	E2	A	C557	C5	B	Q456	B4	B	R146	F2	B	R362	C1	B	R559	D4	B
C219	E2	A	C558	C5	B	Q457	B4	B	R147	G1	B	R363	C1	B	R560	C5	B
C220	E2	B	C559	D4	B	Q458	B4	B	R148	G1	B	R364	C1	B	R561	C5	B
C221	D2	B	C561	D4	B	Q459	B4	B	R149	F2	B	R365	B1	B	R562	C5	B
C222	D2	A	C562	C5	B	Q460	B4	B	R150	F2	B	R366	B1	B	R563	C4	B
C223	D2	B	C563	C5	B	Q461	B4	B	R151	H2	B	R367	B1	B	R564	C4	B
C224	D2	A	C564	C4	B	Q462	B4	B	R201	E3	B	R368	B1	B	R565	C4	B
C225	E2	B	C565	C4	B	Q501	D2	B	R202	E3	B	R369	B2	B	R566	D5	B
C226	E1	B	C566	C5	B	Q502	D1	B	R203	E3	B	R370	C2	B	R567	D5	B
C227	E1	B	C567	D5	A	Q503	D2	B	R204	F3	B	R371	C2	B	R568	D5	B
C228	E1	B	C568	D5	B	Q504	D2	B	R205	F3	B	R372	B2	B	R569	D5	B
C229	E1	B	C569	D5	B	Q505	D2	B	R206	F3	B	R373	C2	B	R570	D5	A
C230	D1	B	C570	D5	B	Q506	D2	B	R207	E2	B	R374	B2	B	R571	D5	B
C231	E1	B	C571	D5	B	Q507	D2	B	R208	E1	B	R375	B2	B	R572	D5	B
C233	E3	A	C572	D5	A	Q508	D2	B	R209	F2	B	R376	B2	B	R573	C4	B
C234	D3	B	C575	D2	B	Q509	D2	B	R210	E2	A	R381	B2	B	R574	C4	B
C235	D3	B	C601	A5	A	Q510	C2	B	R211	E2	B	R382	B3	B	R575	D5	B
C236	D3	A	C602	A5	B	Q511	C2	B	R212	E2	B	R383	C3	B	R576	D4	B
C237	E3	B	C603	A5	A	Q512	C2	B	R213	E2	B	R401	B4	B	R579	B5	B
C238	E2	B	C604	A6	A	Q513	C3	B	R214	F2	B	R402	B4	B	R580	D4	B
C239	E3	B	C605	A6	A	Q514	D3	B	R215	E2	B	R403	B4	B	R581	E2	B
C240	E3	B	C606	A6	B	Q515	C2	B	R216	E2	B	R404	B4	B	R582	D6	B
C241	D3	A	C607	A5	A	Q551	D5	B	R217	E2	B	R405	B4	B	R583	D5	B
C242	F3	B	C608	A6	A	R002	G1	B	R218	D2	B	R406	B4	B	R601	A5	B
C301	B1	A	C609	A6	A	R003	G1	B	R219	E2	B	R407	B4	B	R602	A6	B
C302	A2	A	C610	A6	A	R004	G2	B	R220	E2	B	R408	B4	B	R603	A6	B
C303	A2	A	C611	A5	B	R005	F2	B	R221	E2	B	R409	B4	B	R604	A6	B
C304	B2	A	C612	A5	A	R006	F2	B	R222	E2	B	R410	A4	B	R605	A5	B
C305	B2	A	C702	G3	A	R008	D1	B	R223	E2	B	R451	C3	B	R606	A4	B
C306	A2	A	C703	E5	A	R010	B3	B	R224	E2	B	R453	B4	B	T101	G2	A
C307	B2	A	D101	F2	B	R011	C3	B	R225	E1	B	R454	B4	B	T102	G1	A
C308	B1	A	D201	D2	B	R012	C3	B	R226	E1	B	R455	B5	B	T201	F3	A
C309	B1	B	D202	E2	B	R013	A3	B	R227	E1	B	R456	B4	B	T701	F4	A
C331	B1	A	D203	E3	B	R015	C1	B	R228	E2	B	R457	B4	B	X201	D2	A
C332	B2	A	D451	B5	B	R020	D5	B	R229	E1	B	R458	B4	B	X202	D2	A
C333	B2	A	D452	A4	B	R021	D5	B	R230	E1	B	R459	B4	B	DL101	G1	A
C334	B2	A	D453	A4	B	R022	D4	B	R231	E1	B	R460	C6	B	DL102	G2	A
C335	B2	A	D454	B4	B	R023	D6	B	R232	D1	B	R461	C6	B	DL201	F1	A
C336	B1	A	D455	B3	B	R024	D4	B	R233	E1	B	R462	B5	B	IC201	E1	A
C337	B2	A	D456	B3	B	R025	D4	B	R234	D1	B	R463	B5	B	IC202	E2	A
C338	A3	A	D502	D3	B	R026	C4	B	R235	E1	B	R464	B5	B	IC203	D3	A
C361	C1	A	D511	D2	B	R027	C4	B	R236	E1	B	R465	B5	B	IC204	E2	A
C362	B2	A	D703	E5	A	R028	D4	B	R237	D3	B	R466	B5	B	IC301	A1	A
C363	B2	A	L101	H1	A	R029	C4	B	R238	D2	B	R467	B5	B	IC302	B1	A
C364	C2	A	L102	G2	A	R030	C4	B	R239	E3	B	R469	D3	B	IC303	C1	A
C365	C1	A	L103	F2	A	R031	B5	B	R240	D2	B	R470	B4	B	IC304	A2	A
C366	C2	A	L104	G1	A	R032	A4	B	R241	E2	B	R471	A4	B	IC305	B2	A
C367	C2	A	L201	E1	A	R033	A4	B	R242	E2	B	R472	A4	B	IC401	B3	A
C368	B2	A	L202	F2	A	R034	H1	B	R243	E3	B	R473	A4	B	IC402	C4	A
C381	C2	A	L203	E2	A	R035	H1	B	R244	E3	B	R474	B5	B	IC403	C5	A
C382	C2	B	L204	E2	A	R036	H1	B	R245	E3	B	R501	C1	B	IC501	C1	A
C383	C2	B	L206	E1	A	R037	H1	B	R246	E2	B	R502	D1	B	IC502	D4	A
C401	A3	A	L207	D1	A	R038	H1	B	R247	E2	B	R503	C2	B	IC503	D4	A
C402	B3	B	L601	A5	A	R051	E2	B	R248	D3	B	R504	D1	B	IC504	C5	A
C403	A3	A	Q101	G2	B	R052	E2	B	R249	D3	B	R505	D2	B	IC505	C5	A
C404	B3	A	Q102	G2	B	R053	E3	B	R250	E3	B	R506	D1	B	IC506	C4	A
C405	B3	A	Q103	G1	B	R055	F2	B	R251	E3	B	R507	D1	B	IC507	D5	A
C406	A3	A	Q104	G2	B	R056	E3	B	R252	E2	B	R508	D2	B	IC508	D5	A
C407	B3	A	Q105	G2	B	R057	F2	B	R253	E2	B	R509	D2	B	IC509	D4	A
C408	A3	A	Q106	G2	B	R058	F2	B	R254	D2	B	R510	D1	B			
C409	A3	A	Q107	G2	B	R101	G2	B	R255	E2	B	R511	D2	B			
C410	B3	A	Q108	F2	B	R102	G2	B	R256	D2	B	R512	D2	B			
C451	B5	A	Q109	F1	B	R103	G2	B	R257	D2	B	R513	D2	B			


G
H
COMBI LEVEL
R034
R035
R036
R037
R002
R003
R133
Q112
R147
W005
L101
Q114
Q113
R136
C119
C118
R107
R148
R144
Q115
R138
R137
C121
R108
C105
R106
W007
R140
Q116
C123
R139
R141
R135
R114
Q102
W006
R105
R103
R104
C104
Q118
C120
R134
TP-65
W003
IC101
R151
R112
R113
C101
C102
R102
C103
R101
C125
W004
W002
W001
Q101
E4
R123
W012
R038
CN002
25
24
20
15
10
5
2
1

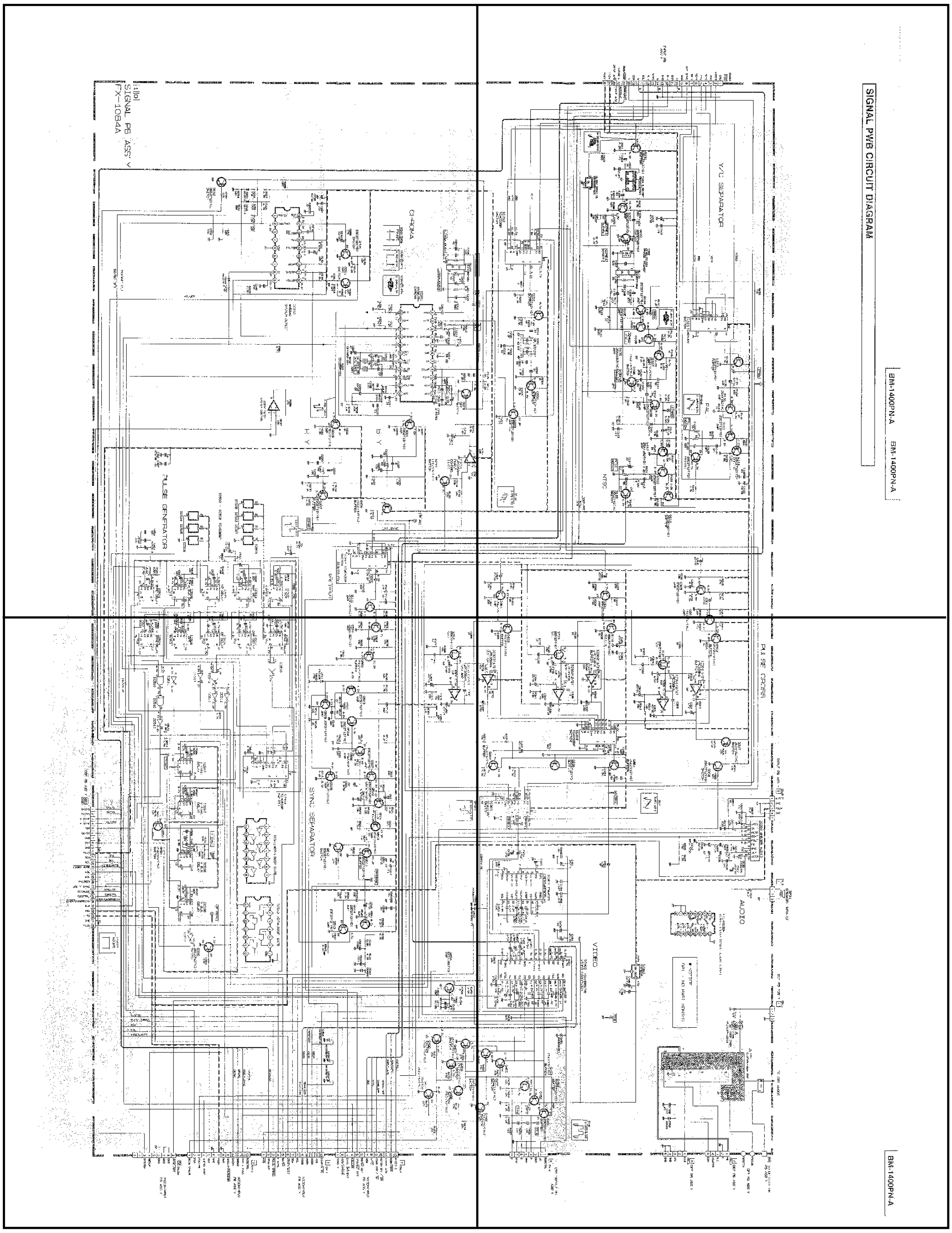
■ ADDRESS TABLE

※ SIDE : A=PARTS SIDE, B=PATTERN SIDE

SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE
C101	G2	A	C452	B4	B	Q110	F1	B	R104	G2	B	R258	D2	B	R514	D2	B
C102	G2	B	C453	B4	B	Q111	G1	B	R105	G2	B	R259	D2	B	R515	D2	B
C103	G2	B	C454	B4	B	Q112	G1	B	R106	G1	B	R260	D3	B	R516	D2	B
C104	G2	B	C455	B3	A	Q113	H1	B	R107	G1	A	R301	B1	B	R517	D2	B
C105	G1	B	C456	C2	A	Q114	H1	B	R108	G1	B	R302	B1	B	R518	D2	B
C106	G1	B	C457	C2	A	Q115	H1	B	R109	G2	B	R303	A1	B	R519	D2	B
C107	G1	B	C458	C1	A	Q116	H1	B	R110	G2	B	R304	B1	B	R520	D2	B
C108	G1	B	C459	B5	A	Q117	F1	B	R111	G2	B	R305	A1	B	R521	D2	B
C109	G2	B	C460	B5	A	Q118	G1	B	R112	G2	B	R306	A1	B	R522	D2	B
C110	G1	B	C461	B4	A	Q201	E3	B	R113	G2	B	R307	A1	B	R523	D2	B
C111	F2	B	C462	B4	B	Q202	F3	B	R114	G2	B	R308	A1	B	R524	C2	B
C112	G2	B	C463	B4	A	Q203	E3	B	R115	G2	B	R309	A2	B	R525	C2	B
C113	G2	B	C464	B4	A	Q204	E1	B	R116	G2	B	R310	B2	B	R526	C2	B
C114	F1	A	C465	B4	A	Q205	E1	B	R117	G2	A	R311	B2	B	R527	C2	B
C115	G1	B	C466	C6	A	Q206	D1	B	R118	G2	B	R312	A2	B	R528	C3	B
C116	G1	B	C467	C6	B	Q207	D1	B	R119	F2	B	R313	A2	B	R529	C2	B
C117	G1	A	C468	B5	A	Q208	D3	B	R120	F2	A	R314	A3	B	R530	D3	B
C118	G1	B	C469	B5	B	Q209	E2	B	R121	F2	B	R315	B1	B	R531	D3	B
C119	G1	A	C470	C6	B	Q210	F2	B	R122	F1	B	R316	B1	B	R532	D3	B
C120	H1	A	C471	C5	A	Q211	E3	B	R123	G2	B	R317	A1	B	R533	D3	B
C121	H1	B	C501	C2	A	Q212	D3	B	R124	F1	B	R318	B1	B	R534	D3	B
C122	H1	A	C502	C2	B	Q301	A1	B	R125	G2	B	R319	A2	B	R535	D3	B
C123	H1	B	C503	C1	A	Q302	A1	B	R126	F2	B	R320	A2	B	R536	C3	B
C124	F2	B	C504	D2	A	Q303	A2	B	R127	G2	B	R321	A2	B	R537	D3	B
C125	G2	B	C505	D2	B	Q304	A2	B	R128	F1	B	R322	A2	B	R538	C2	B
C201	E3	B	C506	D2	A	Q305	B1	B	R129	F1	B	R331	B1	B	R539	C2	B
C202	F3	B	C507	D2	A	Q306	C3	B	R130	F1	B	R332	B1	B	R540	C3	B
C203	E2	B	C508	C1	B	Q307	A2	B	R131	G1	B	R333	B1	B	R541	D3	B
C204	E1	B	C509	D2	B	Q308	A2	B	R132	G1	B	R334	B1	B	R542	D3	B
C205	E1	B	C510	C3	A	Q331	B1	B	R133	G1	B	R335	B1	B	R543	B4	B
C206	E1	A	C511	D3	B	Q332	B1	B	R134	H1	B	R336	B2	B	R544	B4	B
C207	F1	A	C512	D2	B	Q333	B2	B	R135	H1	B	R337	B1	B	R545	A3	B
C208	F2	B	C513	C3	B	Q334	B3	B	R136	G1	B	R338	B1	B	R546	C4	B
C209	E2	A	C514	C2	B	Q361	C1	B	R137	H1	B	R339	B2	B	R547	B5	B
C210	E2	B	C516	D2	B	Q362	B1	B	R138	H1	B	R340	B2	B	R548	D2	B
C211	E2	B	C517	D1	B	Q363	B2	B	R139	H1	B	R341	B2	B	R551	D4	B
C212	E2	B	C551	D6	A	Q364	B2	B	R140	G1	B	R342	B2	B	R552	D4	B
C213	E2	B	C552	D6	B	Q451	B5	B	R141	H1	B	R343	B2	B	R553	D5	B
C214	E2	A	C553	C4	B	Q452	B5	B	R142	F1	B	R344	B3	B	R554	D5	B
C215	E2	A	C554	D4	B	Q453	B5	B	R143	F1	B	R345	B3	B	R555	D4	B
C216	E2	A	C555	D4	B	Q454	B4	B	R144	H1	B	R346	A3	B	R556	C5	B
C217	E2	B	C556	D4	B	Q455	B4	B	R145	F1	B	R361	C1	B	R558	D4	B
C218	E2	A	C557	C5	B	Q456	B4	B	R146	F2	B	R362	C1	B	R559	D4	B
C219	E2	A	C558	C5	B	Q457	B4	B	R147	G1	B	R363	C1	B	R560	C5	B

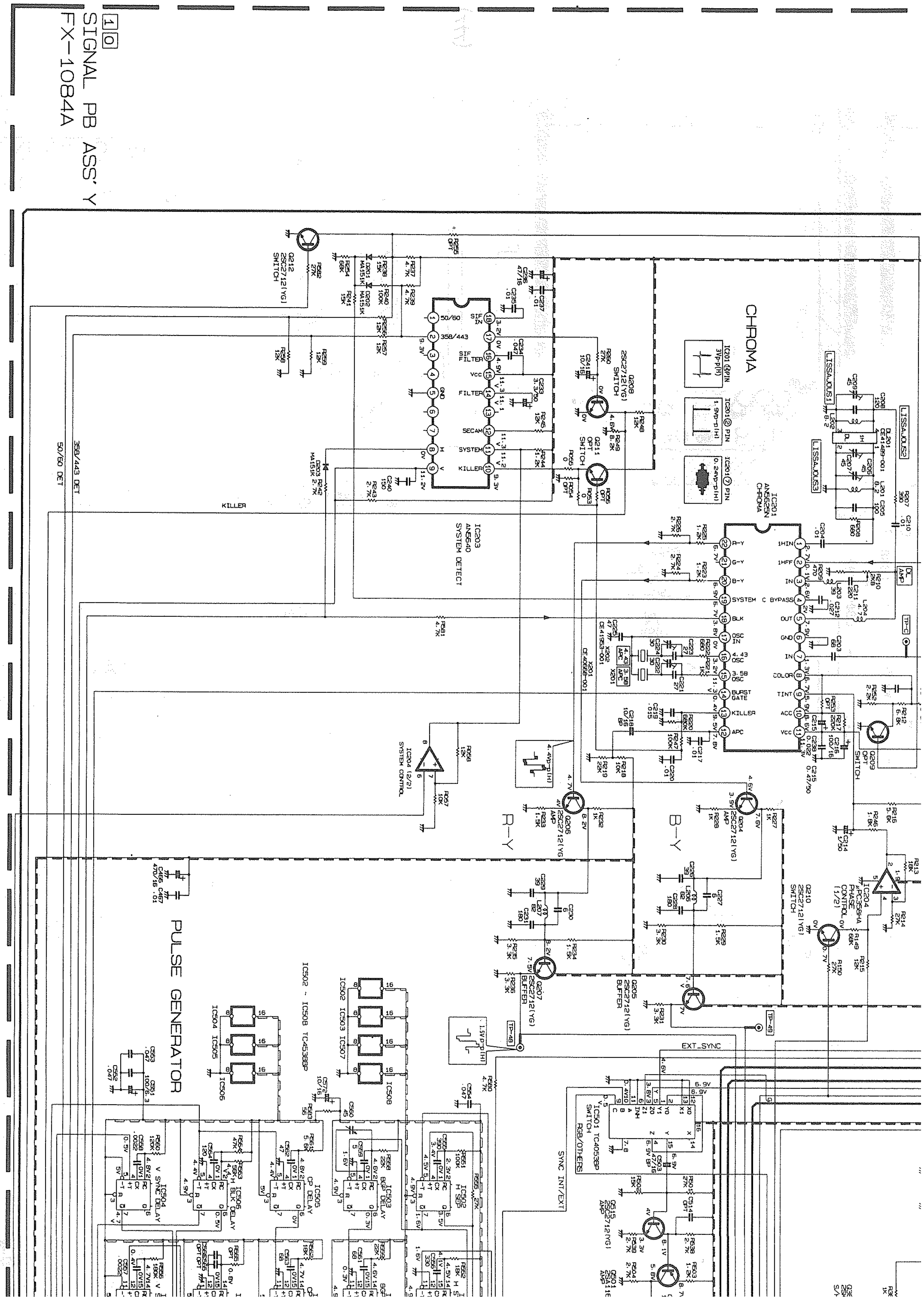
P2-27,28,29-a

P2-27,28,29-b


SIGNAL PWB CIRCUIT DIAGRAM
BM-1400PN-A
SIGNAL PB ASSY
FX-1084A
Y/C SEPARATOR
CHROMA
PULSE GENERATOR
SYNC SEPARATOR
PULSE CROSS
VIDEO
AUDIO

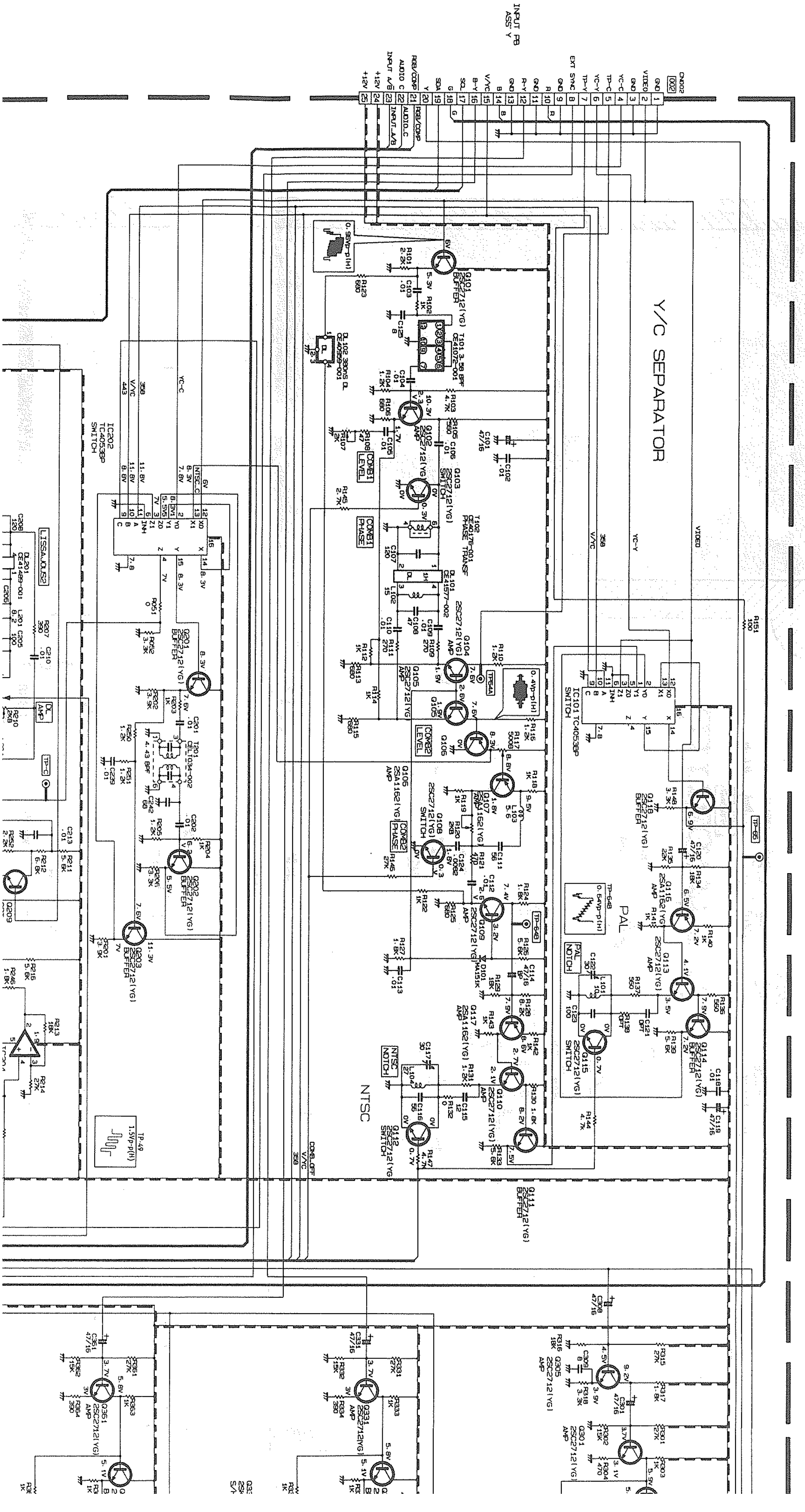
P2-27,28,29-c

P2-27,28,29-d

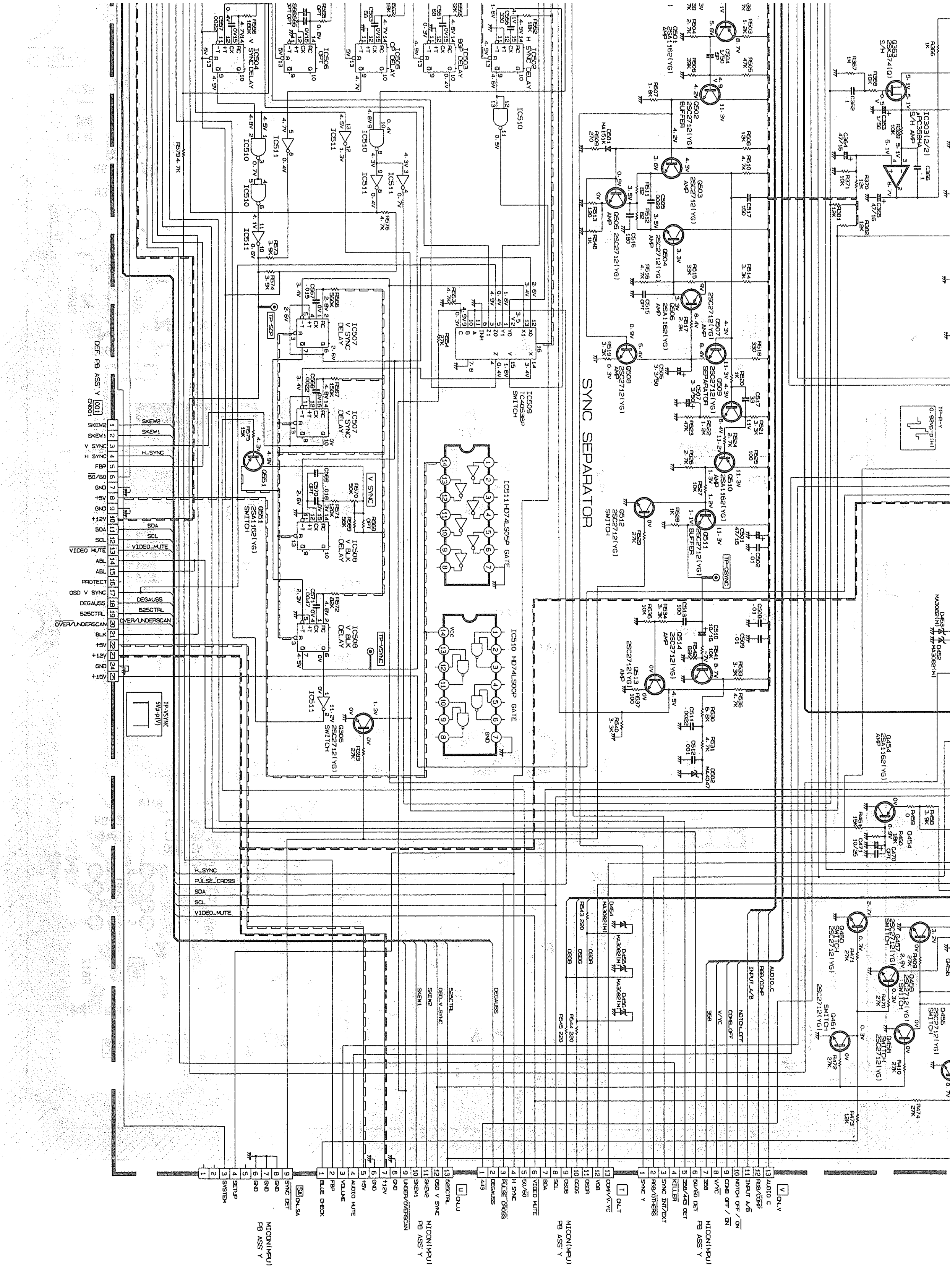

10
SIGNAL PB ASS'Y
FX-1084A
CHROMA
IC201 AN5625N CHROMA
IC203 AN5640 SYSTEM DETECT
IC204 (2/2) SYSTEM CONTROL
IC204 μPC358HA PHASE CONTROL (1/2)
Q212 2SC2712(YG) SWITCH
Q208 2SC2712(YG) SWITCH
Q211 OPT SWITCH
Q209 OPT SWITCH
Q210 2SC2712(YG) SWITCH
Q204 2SC2712(YG) AMP
Q206 2SC2712(YG) AMP
Q205 2SC2712(YG) BUFFER
Q207 2SC2712(YG) BUFFER
Q515 2SC2712(YG) SWITCH
R-Y
B-Y
KILLER
358/443 DET
50/60 DET
LISSAJOUS1
LISSAJOUS2
LISSAJOUS3
DL201
DC AMP
TP-C
TP-48
TP-49
EXT_SYNC
SYNC INT/EXT
PULSE GENERATOR
IC502 - IC508 TC4538BP
IC501 TC4053BP SWITCH
IC504 V SYNC DELAY
IC506 BLK DELAY
IC505 CP DELAY
IC503 BGP DELAY
IC502 H SYNC DELAY

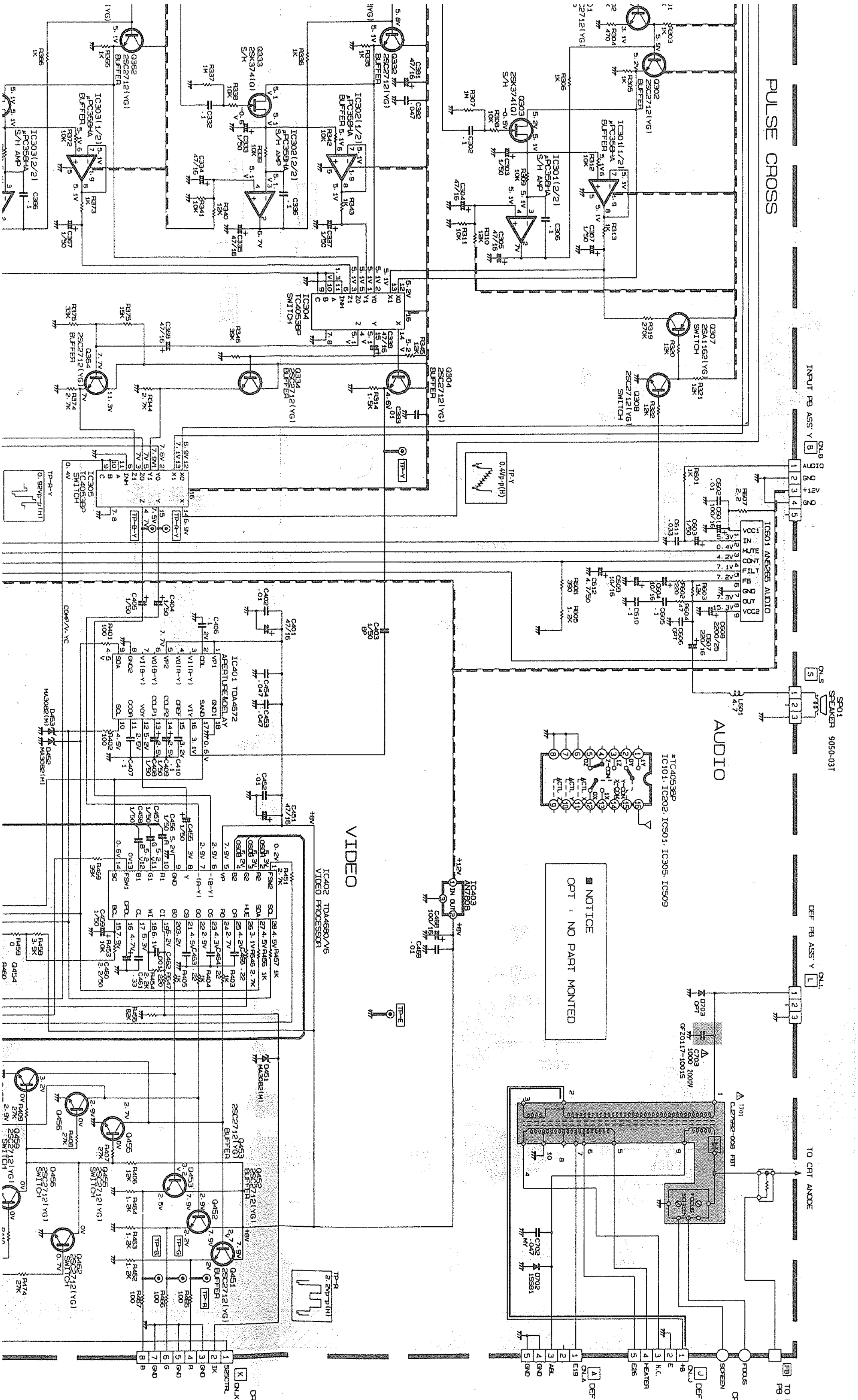
SIGNAL PWB CIRCUIT DIAGRAM

BM-1400PN-A BM-1400PN-A



INPUT PB ASS'Y
CN002
Y/C SEPARATOR
VIDEO
YC-Y
YC-C
358
V/YC
443
PAL
NTSC
IC101 TC4053BP SWITCH
IC202 TC4053BP SWITCH
Q101 2SC2712(YG) BUFFER
Q102 2SC2712(YG) AMP
Q103 2SC2712(YG) SWITCH
Q104 2SC2712(YG) AMP
Q105 2SC2712(YG) AMP
Q106 2SA1162(YG) AMP
Q107 2SA1162(YG) AMP
Q108 2SC2712(YG) SWITCH
Q110 2SC2712(YG) AMP
Q111 2SC2712(YG) BUFFER
Q112 2SC2712(YG) SWITCH
Q113 2SC2712(YG) AMP
Q114 2SC2712(YG) BUFFER
Q115 2SC2712(YG) SWITCH
Q116 2SA1162(YG) AMP
Q117 2SA1162(YG) AMP
Q118 2SC2712(YG) BUFFER
Q201 2SC2712(YG) BUFFER
Q202 2SC2712(YG) BUFFER
Q203 2SC2712(YG) BUFFER
COMB1 LEVEL
COMB1 PHASE
COMB2 LEVEL
COMB2 PHASE
PAL NOTCH
NTSC NOTCH
LISSAJOUS2
DL AMP
TP-C
TP-6B
TP-6A
TP-6D
TP-4B
COMB OFF

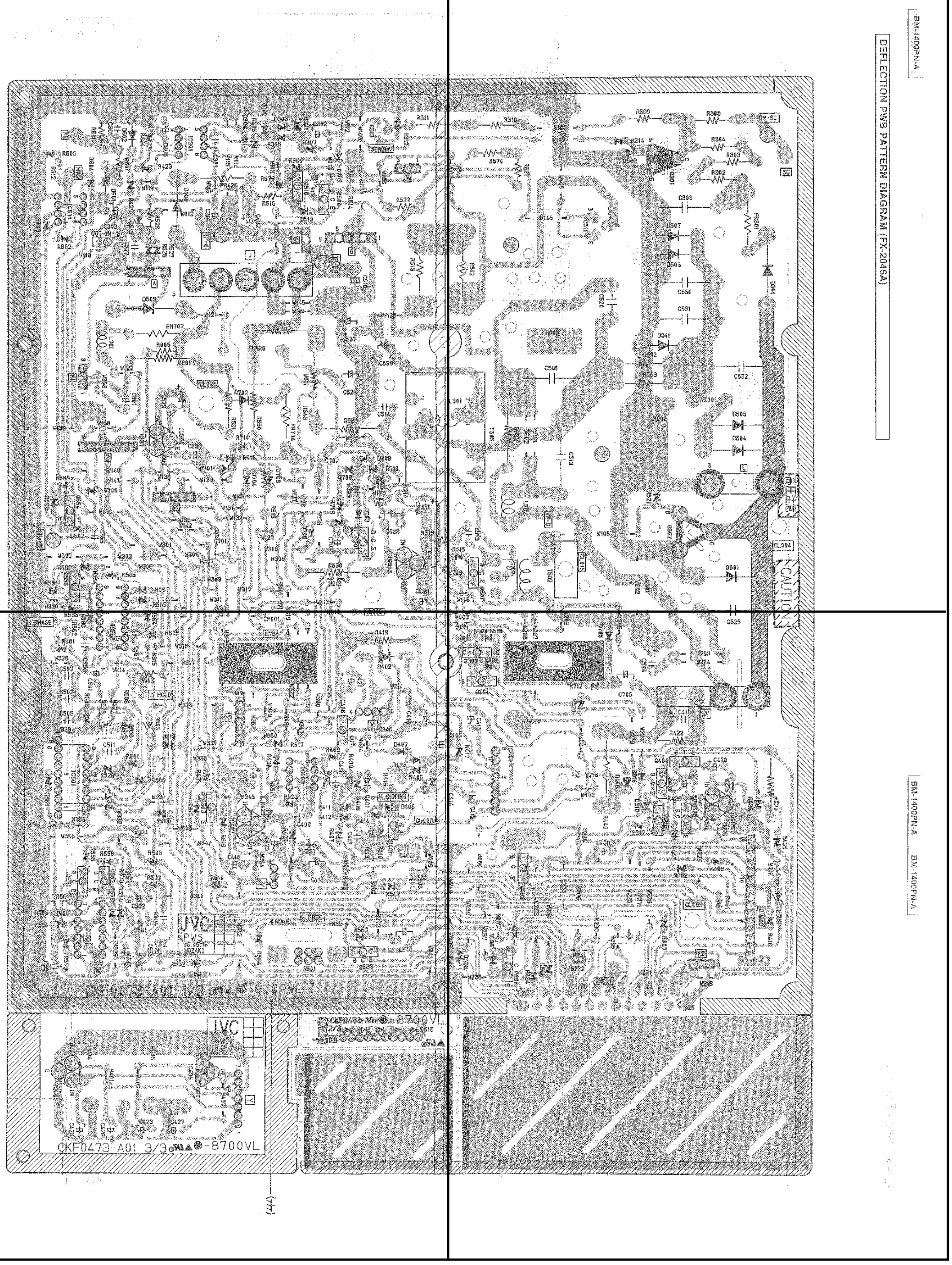

SYNC SEPARATOR
IC504 SYNC DELAY
IC506 CP DELAY
IC505 CP DELAY
IC503 BGP DELAY
IC502 H SYNC DELAY
IC510
IC511
IC509 TC4053BP SWITCH
IC507 V SYNC DELAY
IC507 V SYNC DELAY
IC508 V BLK DELAY
IC508 V DELAY
IC511 HD74LS05P GATE
IC510 HD74LS00P GATE
Q551 2SA1162(YG) SWITCH
Q306 2SC2712(YG) SWITCH
Q511 2SC2712(YG) BUFFER
Q512 2SC2712(YG) SWITCH
Q510 2SA1162(YG)
Q509 2SC2712(YG) SEPARATOR
Q508 2SC2712(YG)
Q507 2SC2712(YG) AMP
Q506 2SA1162(YG) AMP
Q505 2SC2712(YG) AMP
Q504 2SC2712(YG) AMP
Q503 2SC2712(YG) AMP
Q502 2SC2712(YG) BUFFER
Q501 2SA1162(YG) AMP
Q513 2SC2712(YG) AMP
Q514 2SC2712(YG) AMP
Q454 2SA1162(YG) AMP
Q456 2SC2712(YG) SWITCH
Q457 2SC2712(YG) SWITCH
Q458 2SC2712(YG) SWITCH
Q459 2SC2712(YG) SWITCH
Q460 2SC2712(YG) SWITCH
Q461 2SC2712(YG) SWITCH
IC303(1/2) μPC358HA S/H AMP
Q353 2SJ74(G) S/H
TP-CSYNC
TP-VSYNC
TP-SCP
TP-VSYNC 5Vp-p(V)
TP-R-Y 0.92Vp-p(H)
DEF PB ASS'Y CN001
SKEW2
SKEW1
V SYNC
H SYNC
FBP
50/60
GND
+5V
GND
+12V
SDA
SCL
VIDEO MUTE
ABL
ABL
PROTECT
OSD V SYNC
DEGAUSS
525CTRL
OVER/UNDERSCAN
BLK
+5V
+12V
GND
+15V
H_SYNC
PULSE_CROSS
SDA
SCL
VIDEO_MUTE
5A CN_5A
SYSTEM
SETUP
GND
GND
GND
SYNC DET
U CN_U
BLUE CHECK
FBP
VOLUME
AUDIO MUTE
H5V
GND
+12V
GND
UNDER/OVERSCAN
SKEW1
SKEW2
OSD V SYNC
525CTRL
T CN_T
443
DEGAUSS
PULSE CROSS
H SYNC
50/60
VIDEO MUTE
SDA
SCL
OSDB
OSDG
OSDR
VOB
COMP/V_YC
V CN_V
SYNC Y
RGB/OTHERS
SYNC INT/EXT
KILLER
358/443 DET
50/60 DET
358
V/YC
COMB OFF/ON
NOTCH OFF/ON
INPUT A/B
RGB/COMP
AUDIO C
MICON(MPU) PB ASS'Y
MICON(MPU) PB ASS'Y
MICON(MPU) PB ASS'Y
MICON(MPU) PB ASS'Y


PULSE CROSS
AUDIO
VIDEO
INPUT PB ASS'Y
DEF PB ASS'Y
TO CRT ANODE
TO DEFLECTION PB ASS'Y
CRT PB ASS'Y
CRT SOCKET PB ASS'Y
SPEAKER 9050-03T
IC501 AN5265 AUDIO
IC401 TDA4672 APERTURE&DELAY
IC402 TDA4680/V6 VIDEO PROCESSOR
IC403 AN7808
IC304 TC4053BP SWITCH
IC305 TC4053BP SWITCH
*TC4053BP IC101·IC202·IC501·IC305·IC509
■ NOTICE
OPT : NO PART MONTED
T701 CL27992-008 FBT
FOCUS
SCREEN
TP-Y
TP-R
TP-E

BM-1400PN-A

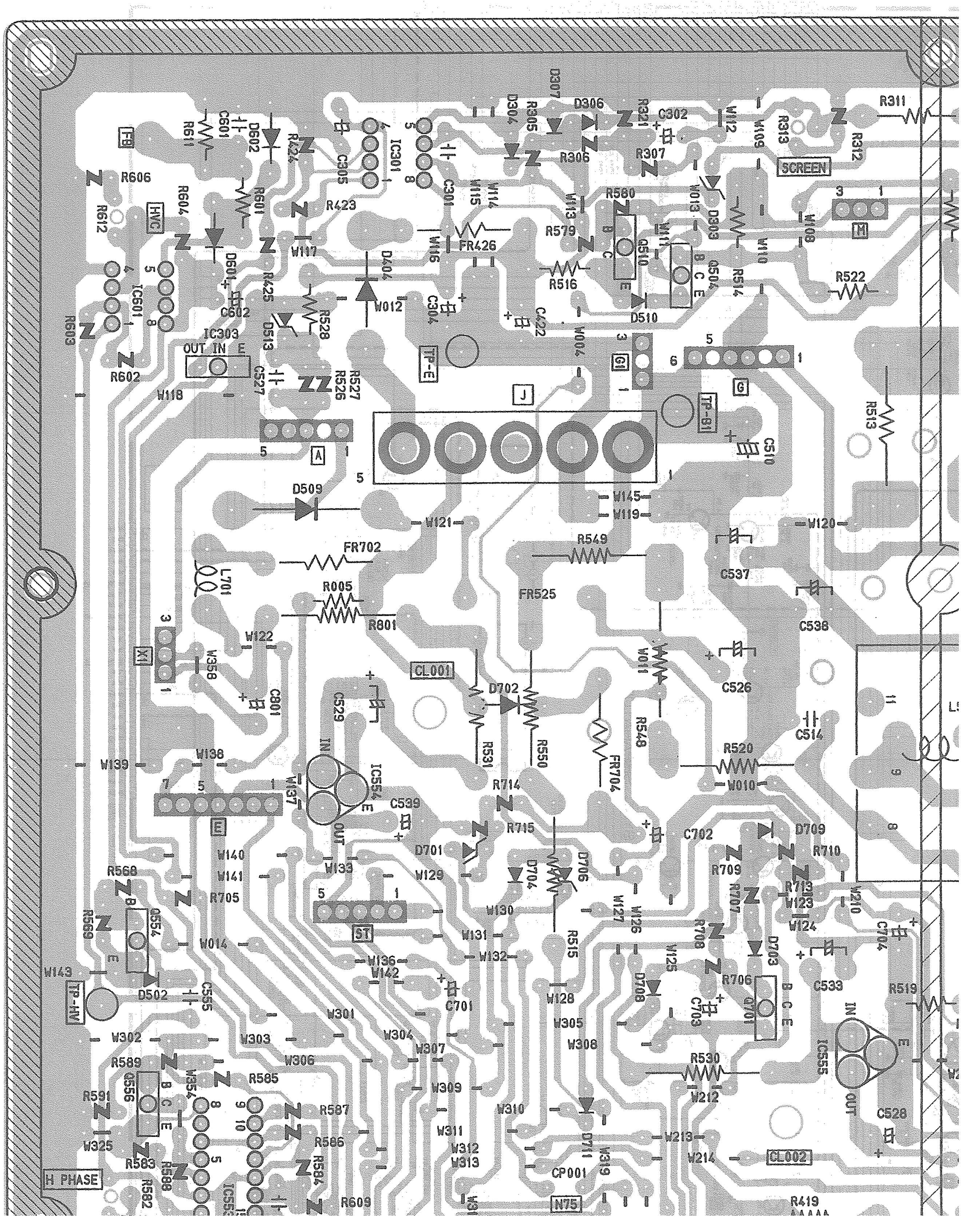
P2-30,31,32-a

P2-30,31,32-b


BM-1400PN-A
DEFLECTION PW'S PATTERN DIAGRAM (FX-2046A)
CAUTION
JVC
CKF0473 A01 3/3
8700VL
BM-1400PN-A

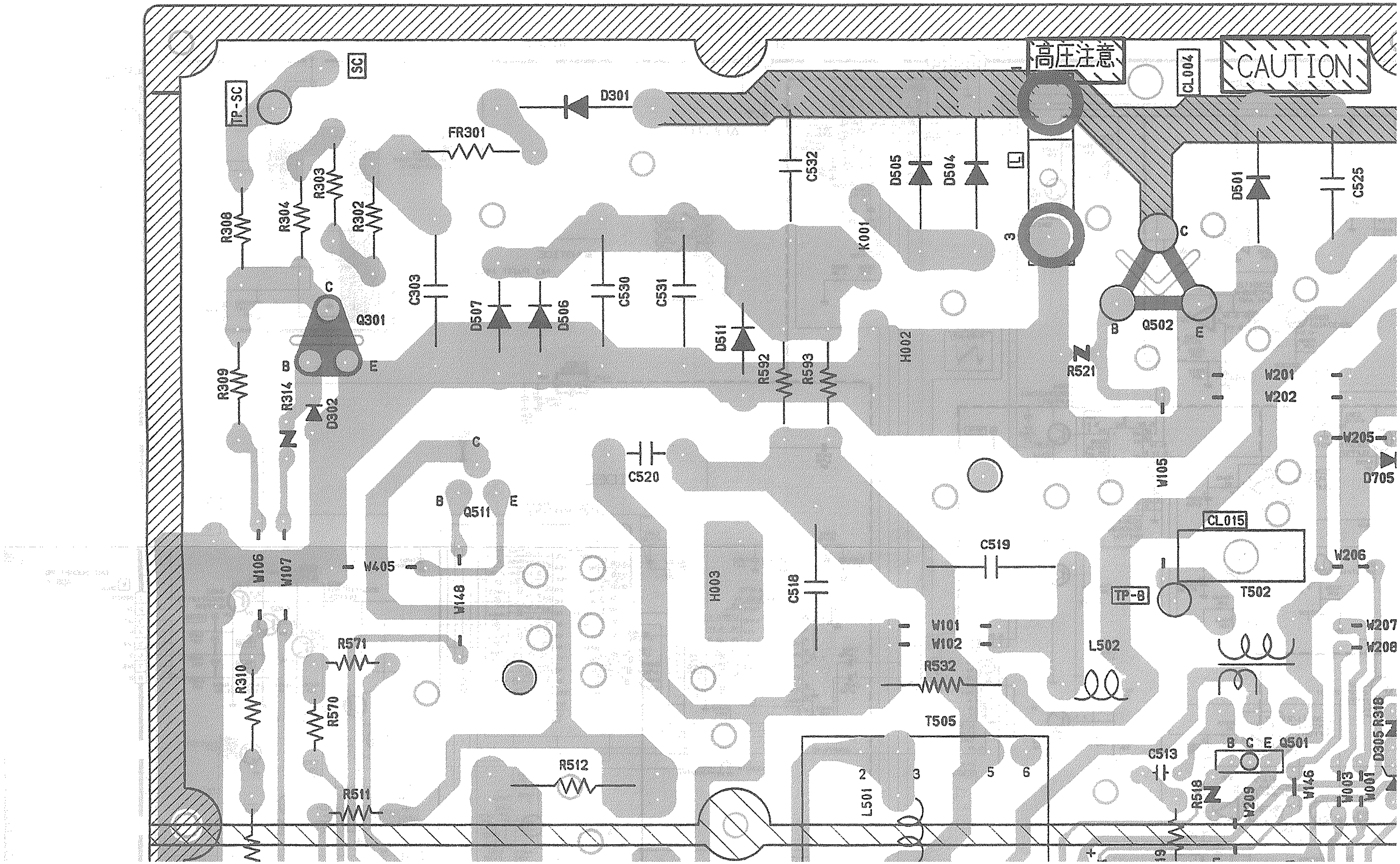
P2-30,31,32-c

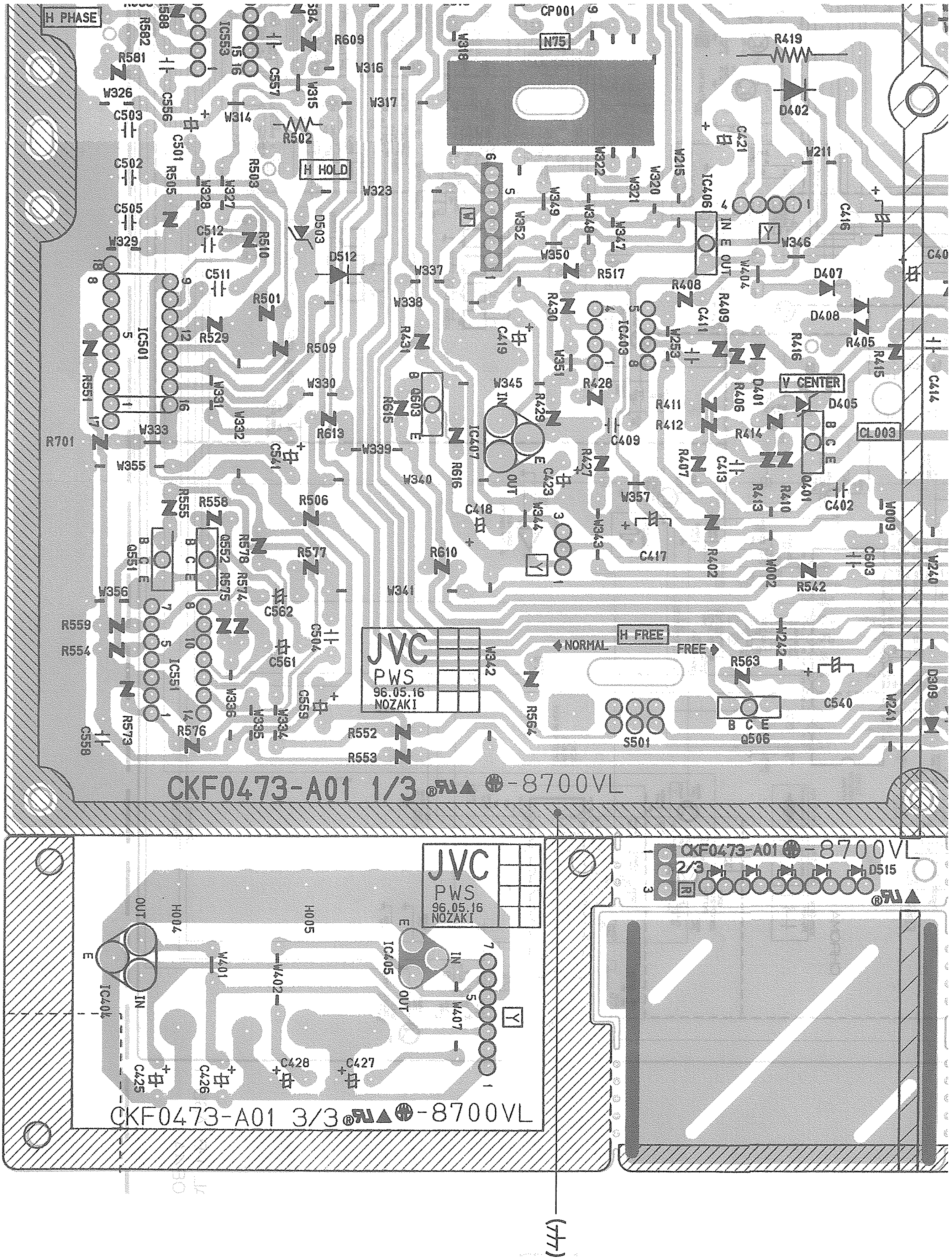
P2-30,31,32-d

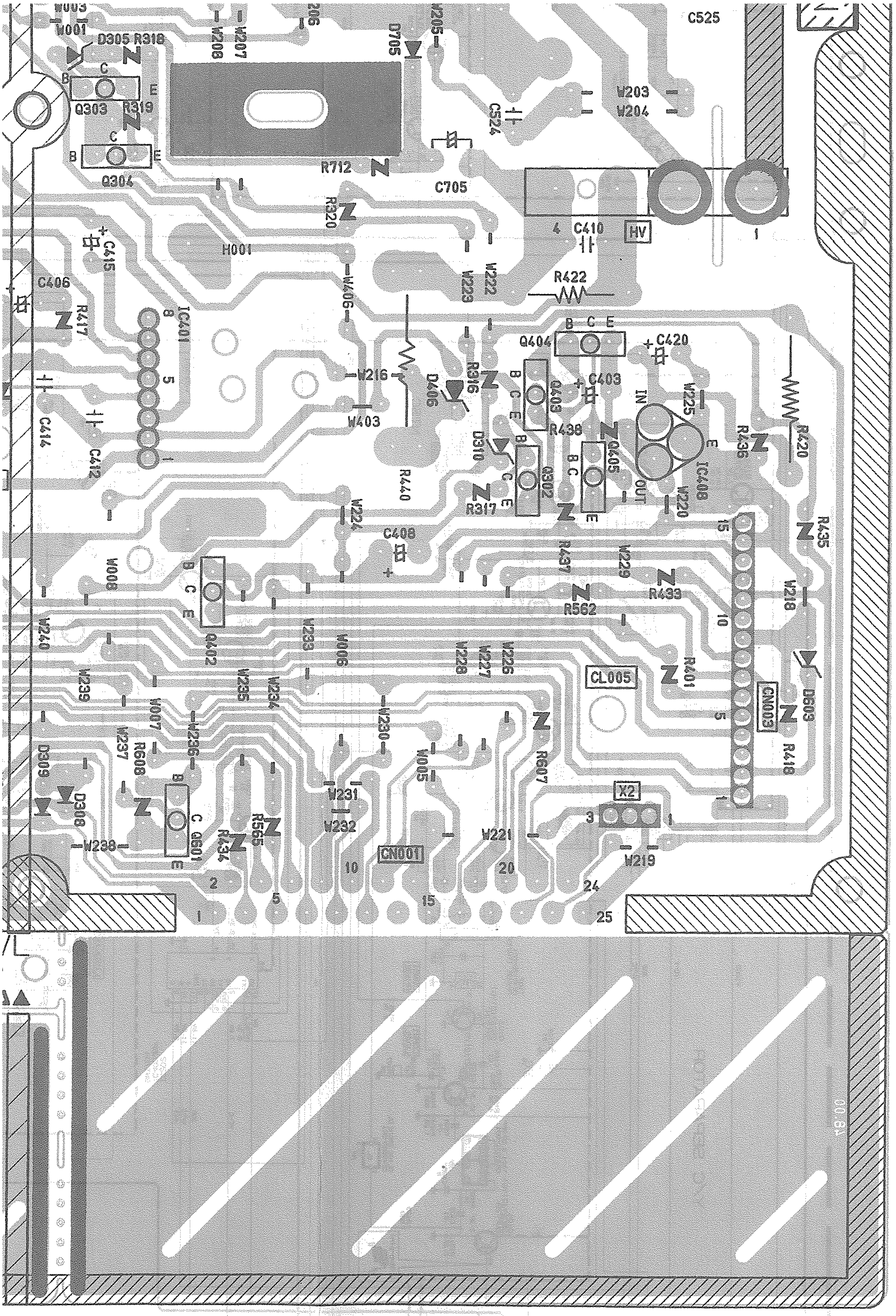

FB
R611
C601
D602
R424
C305
IC301
C301
D304
D307
R305
D306
R321
C302
W112
W109
R313
R311
R312
SCREEN
R606
R612
HVC
R604
R601
R423
W115
W114
R306
R307
W113
R580
W013
D303
M
W117
D404
W116
FR426
R579
Q510
W111
Q504
W110
W108
R514
R522
IC601
D601
R425
C602
R528
D513
W012
C304
C422
R516
D510
R603
IC303
OUT IN E
R602
C527
W118
R527
R526
TP-E
W004
G1
G
J
TP-B1
A
C510
R513
D509
W145
W119
W121
W120
FR702
R549
C537
L701
R005
FR525
R801
C538
X1
W122
W358
C801
CL001
W011
C526
C529
D702
R548
C514
R531
R550
FR704
IC554
IN
OUT
E
W139
W136
W137
R520
W010
C539
R714
R715
C702
D709
R710
D701
D706
D704
R709
R707
R713
W123
W210
W140
W141
W133
W129
R568
R705
R569
Q554
W130
W127
W126
R515
R708
W124
C704
ST
W014
W131
W132
W125
D703
W143
W136
W142
D708
C533
R519
TP-HV
D502
C555
C701
W128
R706
C703
Q701
W301
W304
W305
IC555
W302
W303
W306
W307
W308
R530
R589
W354
R585
Q556
R591
W309
W212
R587
W310
C528
W325
R586
W311
W312
D711
W213
R583
R588
W313
W319
W214
CL002
R584
H PHASE
R582
IC552
R609
CP001
N75
R419
L5

P2-30,31,32-a

DEFLECTION PWB PATTERN DIAGRAM (FX-2046A)

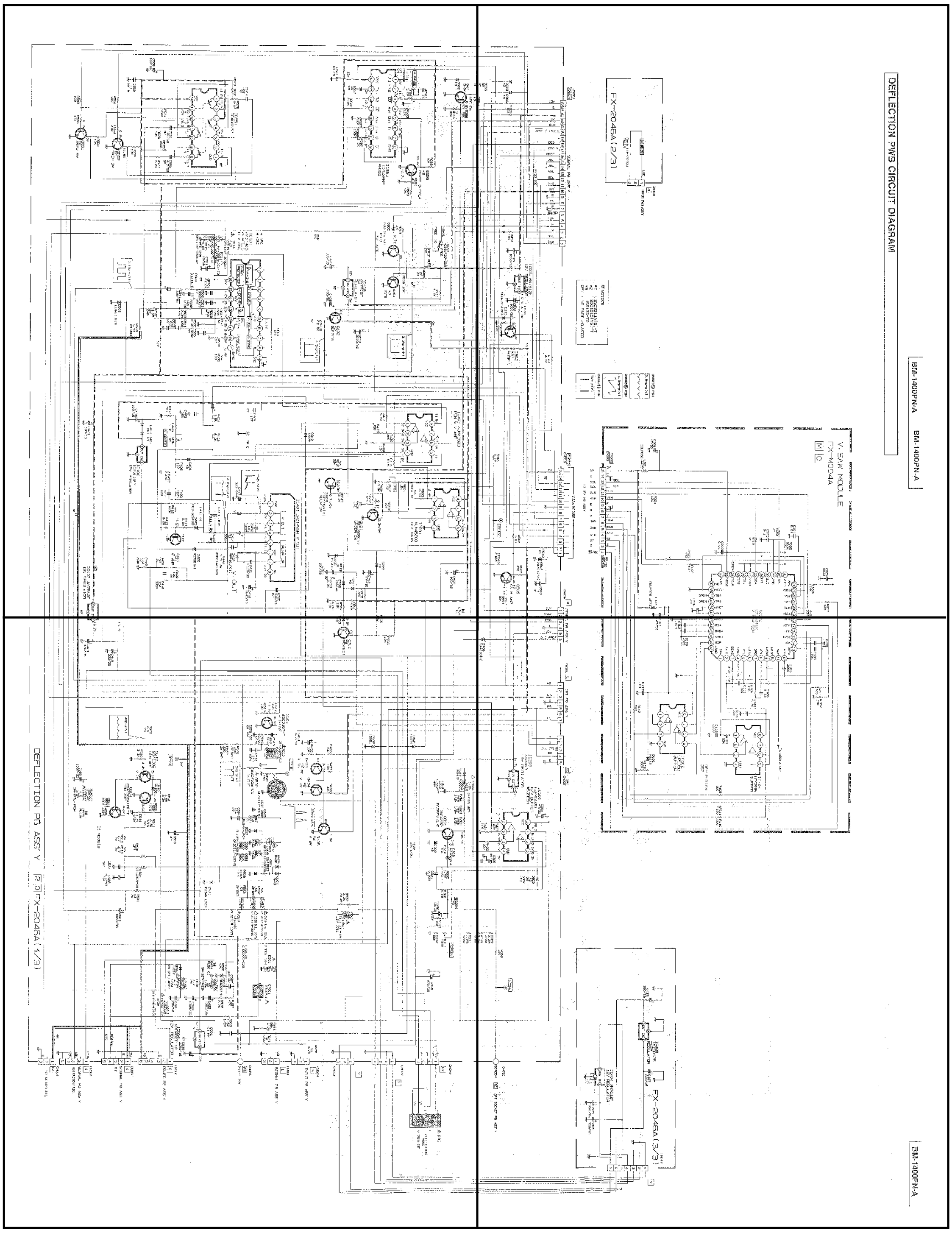

TP-SC
SC
D301
FR301
R308
R304
R303
R302
C303
D507
D506
C530
C531
C532
D505
D504
L
K001
3
高圧注意
CL004
CAUTION
D501
C525
Q301
C
B
E
R309
R314
D302
D511
R592
R593
H002
Q502
R521
W201
W202
W205
D705
W105
C520
Q511
W106
W107
W405
W148
H003
C518
C519
CL015
T502
TP-B
W206
W101
W102
L502
W207
W208
R532
R571
R570
R310
R512
R511
T505
L501
2
3
5
6
C513
Q501
D305
R318
R518
W209
W146
W003
W001


H PHASE
H HOLD
V CENTER
CL003
N75
CP001
H FREE
NORMAL
FREE
JVC
PWS
96.05.16
NOZAKI
CKF0473-A01 1/3
-8700VL
CKF0473-A01 2/3
-8700VL
CKF0473-A01 3/3
-8700VL
IC501
IC551
IC553
IC403
IC404
IC405
IC406
IC407
Q401
Q506
Q551
Q552
Q603
S501
D402
D405
D407
D408
D503
D512
D515
R419
R701
C417
C540
(77)

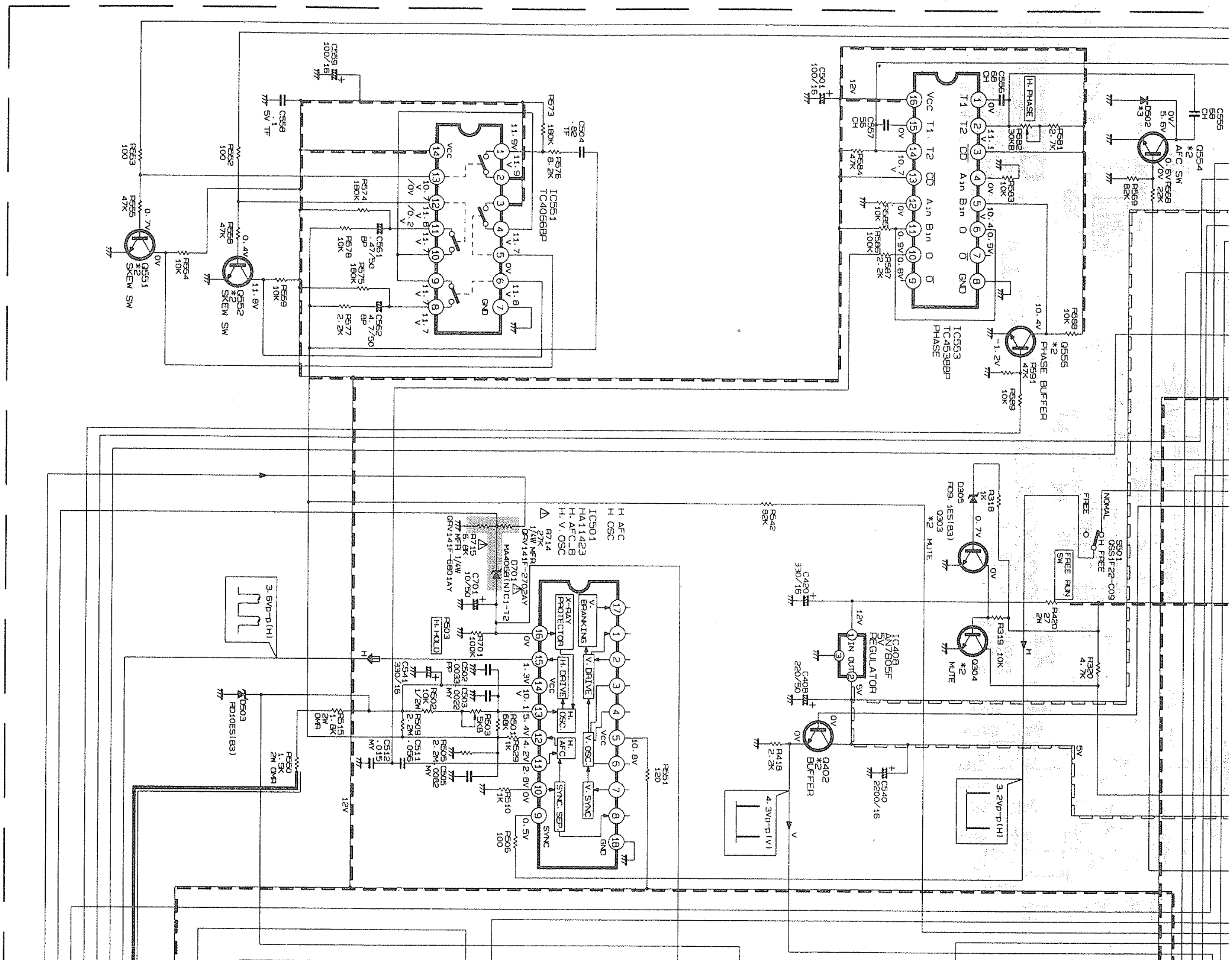

C525
W203
W204
C524
C705
R712
R320
H001
C410
HV
R422
W222
W223
W406
W216
W403
R316
D406
Q404
C420
C403
Q403
R438
W225
IN
OUT
IC408
R436
R420
Q405
Q302
D310
R317
R440
W224
C408
W220
R435
R437
W229
R433
R562
W218
Q402
W233
W006
W228
W227
W226
CL005
R401
CN003
D503
R418
R607
X2
W219
W221
CN001
W005
W230
W231
W232
W234
W235
W236
W238
R434
R565
Q601
R608
W237
W007
W239
W240
W008
D309
D308
IC401
C406
C415
R417
C414
C412
Q303
Q304
R319
D305
R318
W001
W003
W208
W207
D705
W205

BM-1400PN-A BM-1400PN-A

P2-33,34,35-a P2-33,34,35-b


DEFLECTION PWB CIRCUIT DIAGRAM
BM-1400PN-A
BM-1400PN-A
FX-2046A(2/3)
V. SAW MODULE
FX-4004A
M IC
V. OUT
DEFLECTION PB ASS'Y
FX-2046A(1/3)
FX-2046A(3/3)
BM-1400PN-A

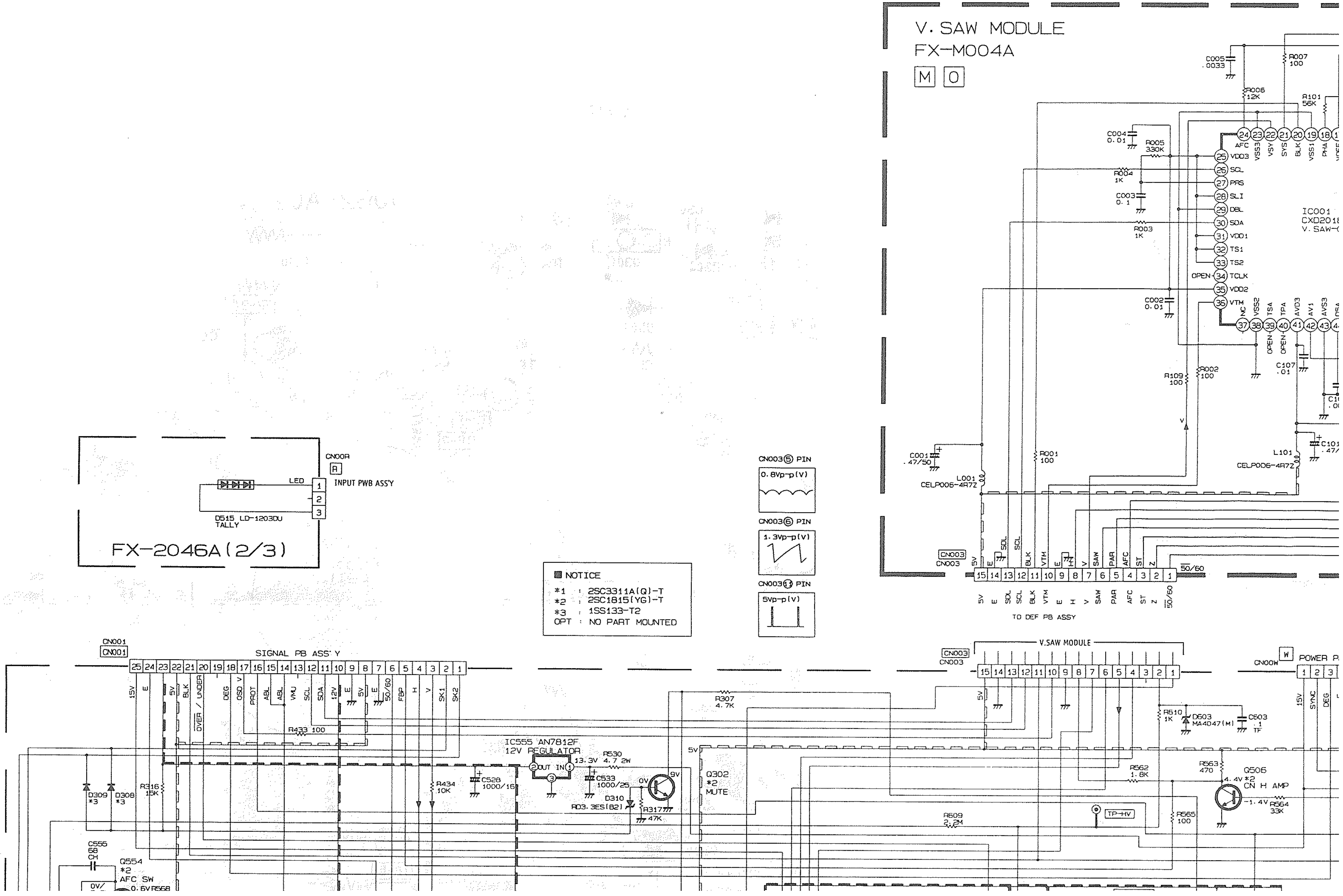
P2-33,34,35-c P2-33,34,35-d


IC551 TC4066BP
Q551 SKEW SW
Q552 SKEW SW
IC553 TC4538BP PHASE
Q554 AFC SW
Q556 PHASE BUFFER
H.PHASE
IC501 HA11423 H.AFC.B H.V.OSC
H AFC
H OSC
X-RAY PROTECTOR
BRANKING
H.DRIVE
V.DRIVE
H.OSC
H.AFC
V.OSC
V.SYNC
SYNC SEP
H.HOLD
Q303 MUTE
Q304 MUTE
S501 H FREE
FREE RUN SW
IC408 AN7805F 5V REGULATOR
Q402 BUFFER
IC403 NJM4560D PIN & V AMP
IC401 UPC1498H V OUT
V.OUT
PUMP UP
V CENTER
IC406 TA78L012AP-Y 12V REGULATOR
IC407 AN7812F 12V REGULATOR
Q401 V AMP
IC601 NJM4560D H/V GAIN
Q603 UNDER SW
Q601 UNDER SW
H/C

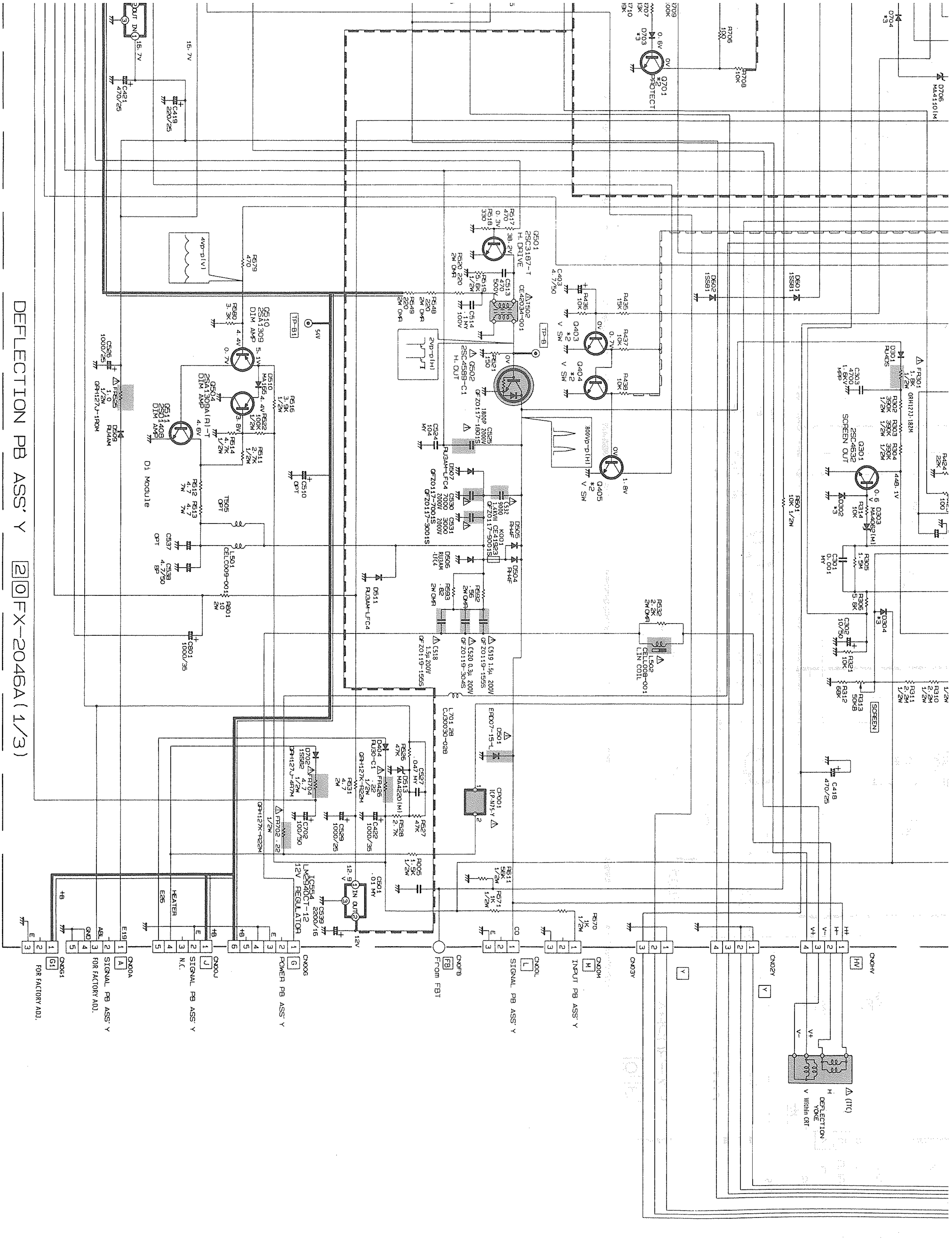
P2-33,34,35-a

BM-1400PN-A BM-1400PN-A

DEFLECTION PWB CIRCUIT DIAGRAM

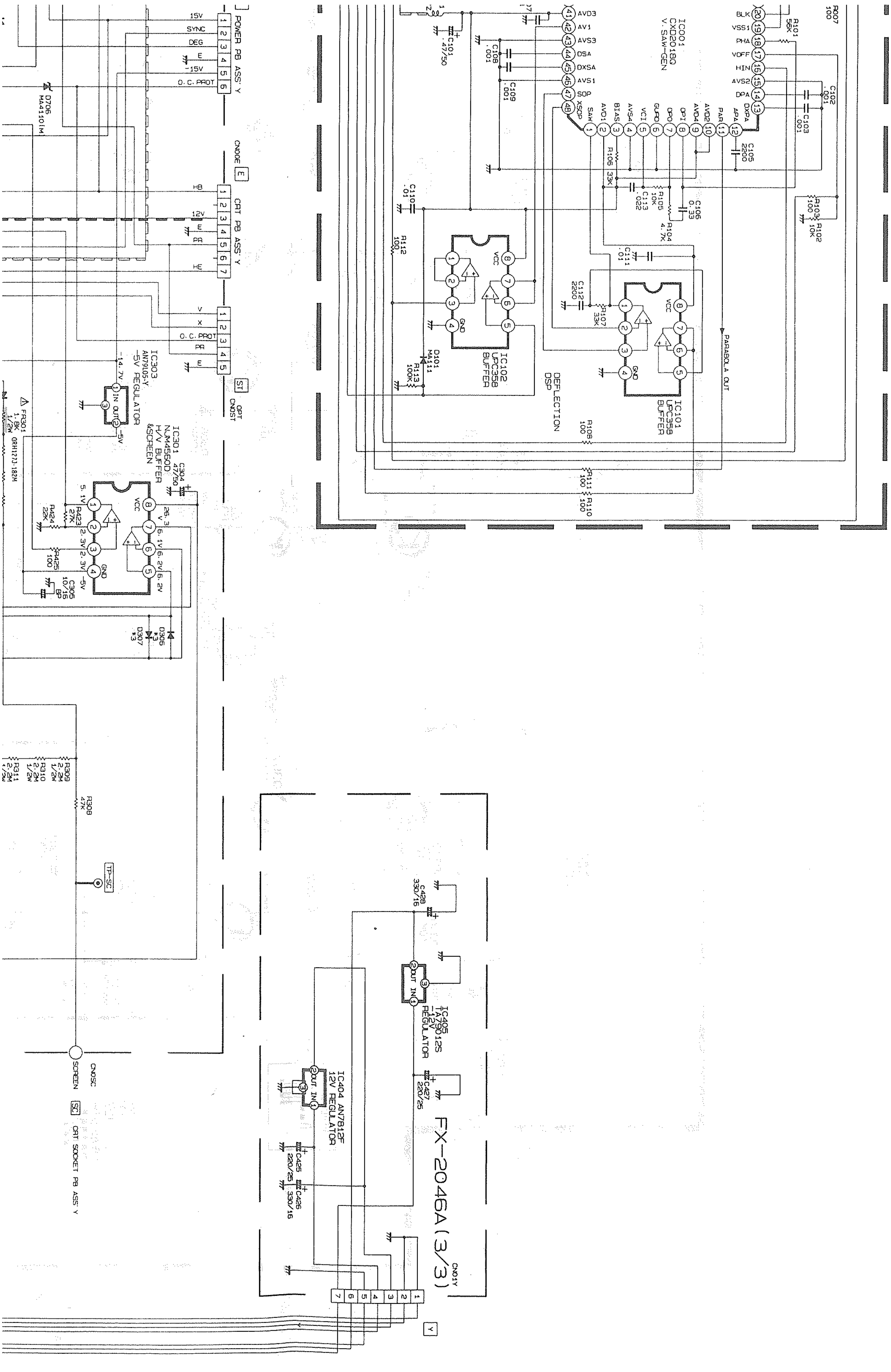

V. SAW MODULE
FX-M004A
M O
IC001
CXD201
V. SAW-
FX-2046A(2/3)
D515 LD-1203DU
TALLY
LED
CN00R
R
INPUT PWB ASS'Y
CN003⑤ PIN
0.8Vp-p(V)
CN003⑥ PIN
1.3Vp-p(V)
CN003⑬ PIN
5Vp-p(V)
CN001
SIGNAL PB ASS'Y
15V
E
5V
BLK
OVER / UNDER
DEG
OSD V
PROT
ABL
VMU
SCL
SDA
12V
50/60
FBP
H
V
SK1
SK2
R433 100
IC555 AN7812F
12V REGULATOR
R530 4.7 2W
13.3V
C533 1000/25
C528 1000/16
R434 10K
D310
RD3.3ES(B2)
R317 47K
Q302
*2
MUTE
R307 4.7K
R316 15K
D309 *3
D308 *3
C556 68 CH
Q554
*2
AFC SW
R568
CN003
V.SAW MODULE
TO DEF PB ASSY
SAW
PAR
AFC
ST
Z
VTM
SDL
R001 100
L001 CELP006-4R7Z
C001 .47/50
L101 CELP006-4R7Z
C101 .47
C107 .01
R109 100
R002 100
C002 0.01
C003 0.1
R003 1K
R004 1K
C004 0.01
R005 330K
C005 .0033
R006 12K
R007 100
R101 56K
VDD3
PRS
SLI
DBL
VDD1
TS1
TS2
TCLK
VDD2
NC
VSS2
TSA
TPA
AVD3
AV1
AVS3
VSS3
VSY
SYS
VSS1
PHA
OPEN
R510 1K
D603 MA4047(M)
C503 .1 TF
R562 1.8K
R563 470
Q506
*2
CN H AMP
4.4V
-1.4V
R564 33K
R565 100
R609 2.2M
TP-HV
CN00W
W
POWER P
SYNC

■ NOTICE
*1 : 2SC3311A(Q)-T
*2 : 2SC1815(YG)-T
*3 : 1SS133-T2
OPT : NO PART MOUNTED



DEFLECTION PB ASS'Y 20FX-2046A(1/3)

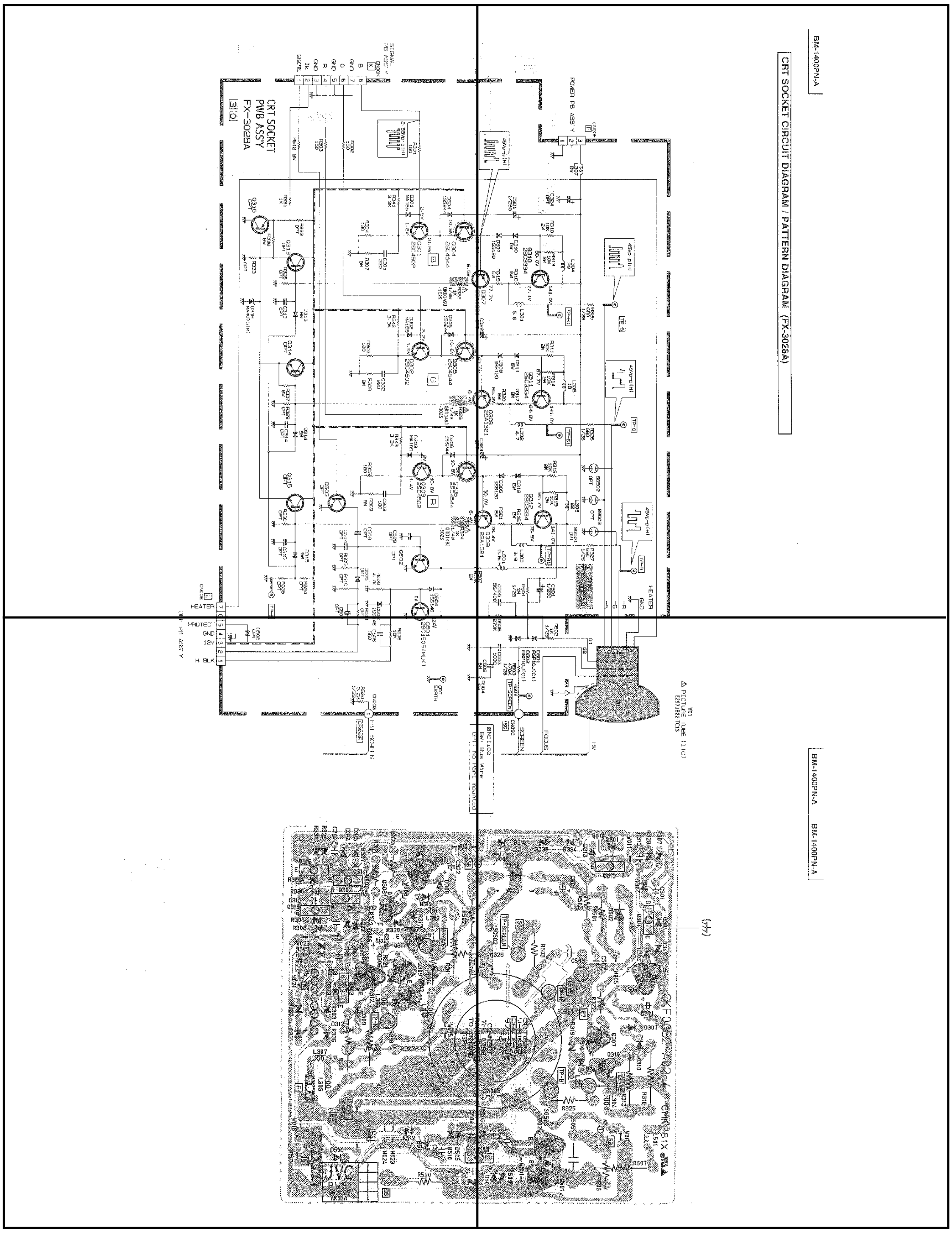
Q501 2SC3187-T H. DRIVE
Q502 2SC4589-C1 H. OUT
Q510 2SA1309 DIM AMP
Q504 2SA1309A(R)-T DIM AMP
Q511 2SD1408 DIM AMP
Q403 *2 V SW
Q404 *2 V SW
Q405 *2 V SW
Q301 2SC4632 SCREEN OUT
Q701 *2 PROTECT
IC554 LM2940CT-12 12V REGULATOR
T501 CE42034-001
L501 CELC009-001
L502 CELC008-001 LIN COIL
L701 28 CJ30030-028
CP001 ICP-N15
T505 OPT
TP-B
TP-B1
Di Module
4Vp-p(V)
2Vp-p(H)
800Vp-p(H)
SCREEN
CN001 FOR FACTORY ADJ.
CN00A SIGNAL PB ASS'Y FOR FACTORY ADJ.
CN00J SIGNAL PB ASS'Y N.C.
CN00G POWER PB ASS'Y
CN0FB From FBT
CN00L SIGNAL PB ASS'Y
CN00M INPUT PB ASS'Y
CN03Y
CN02Y
CN0HV
DEFLECTION YOKE Within CRT
H
V
V+
V-
H+
H-
HEATER
E26
E19
ABL
GND
12V
16.7V


FX-2046A(3/3)
IC001 CXD2018Q V.SAW-GEN
IC101 UPC358 BUFFER
IC102 UPC358 BUFFER
DEFLECTION DSP
PARABOLA OUT
IC301 NJM4560D H/V BUFFER &SCREEN
IC303 AN79L05-Y -5V REGULATOR
IC404 AN7812F 12V REGULATOR
IC405 TA79012S -12V REGULATOR
POWER PB ASS'Y
CRT PB ASS'Y
CRT SOCKET PB ASS'Y
CN01Y
CNDSC
SCREEN
TP-SC
15V
SYNC
DEG
-15V
O.C.PROT
HB
12V
PR
HE

BM-1400PN-A

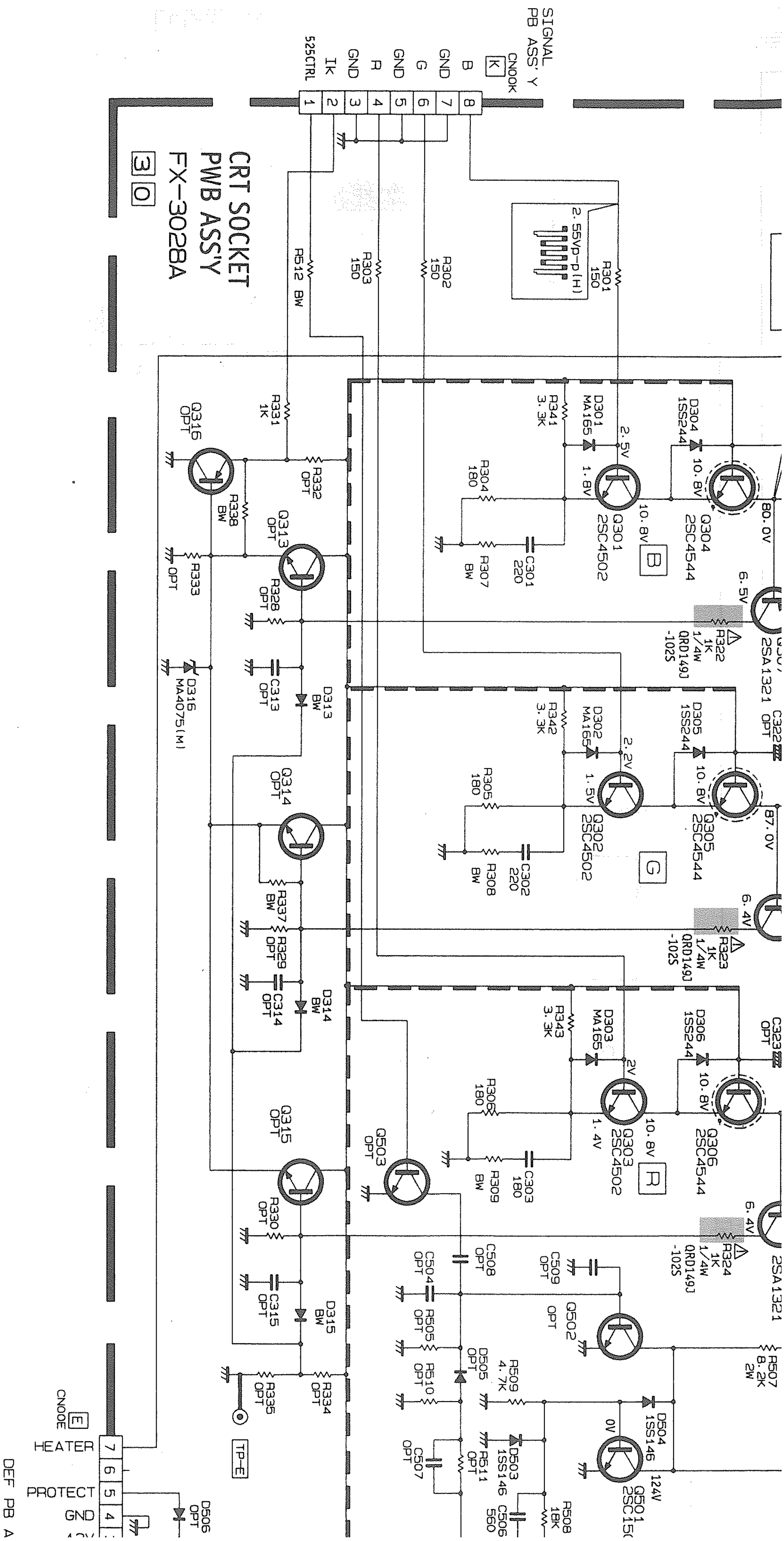
P2-36,37,38-a

P2-36,37,38-b

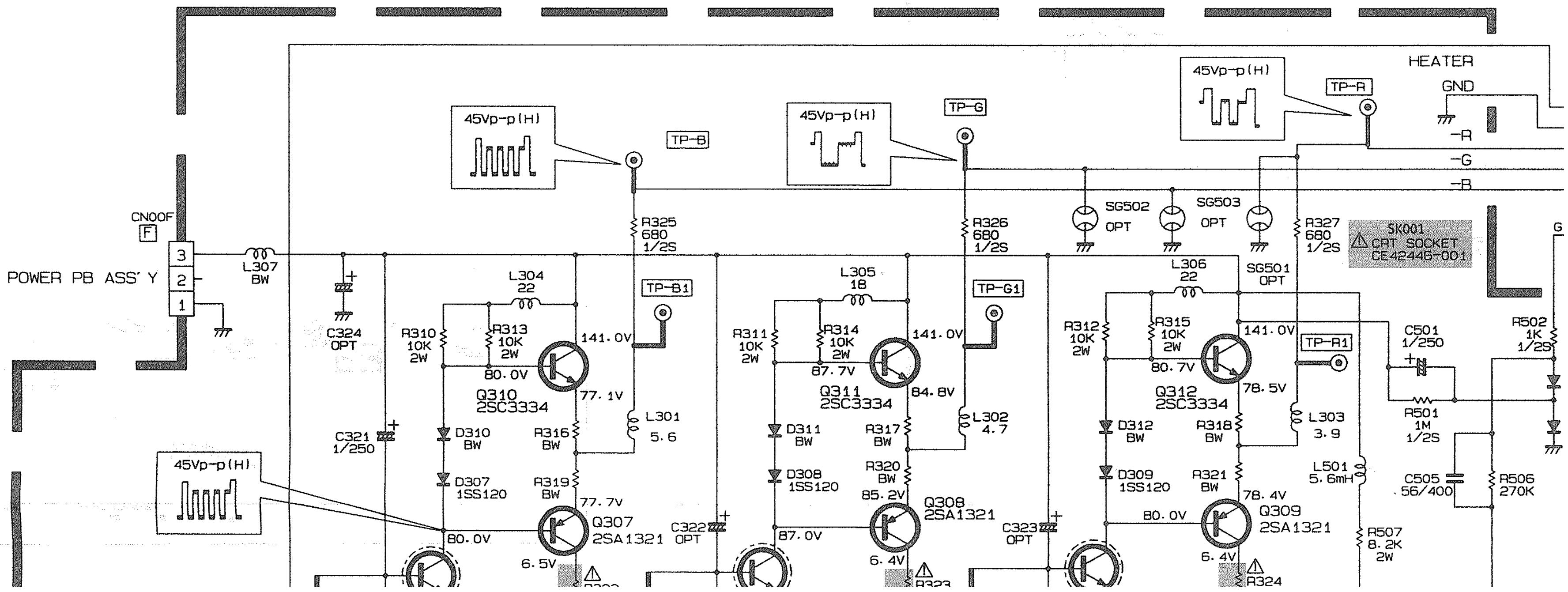

BM-1400PN-A
CRT SOCKET CIRCUIT DIAGRAM / PATTERN DIAGRAM (FX-3028A)
CRT SOCKET PWB ASSY FX-3028A
POWER PB ASS'Y
HEATER
GND
HEATER
PROTEC
GND
12V
H. BLK
PICTURE TUBE
FOCUS
SCREEN
HV
JVC

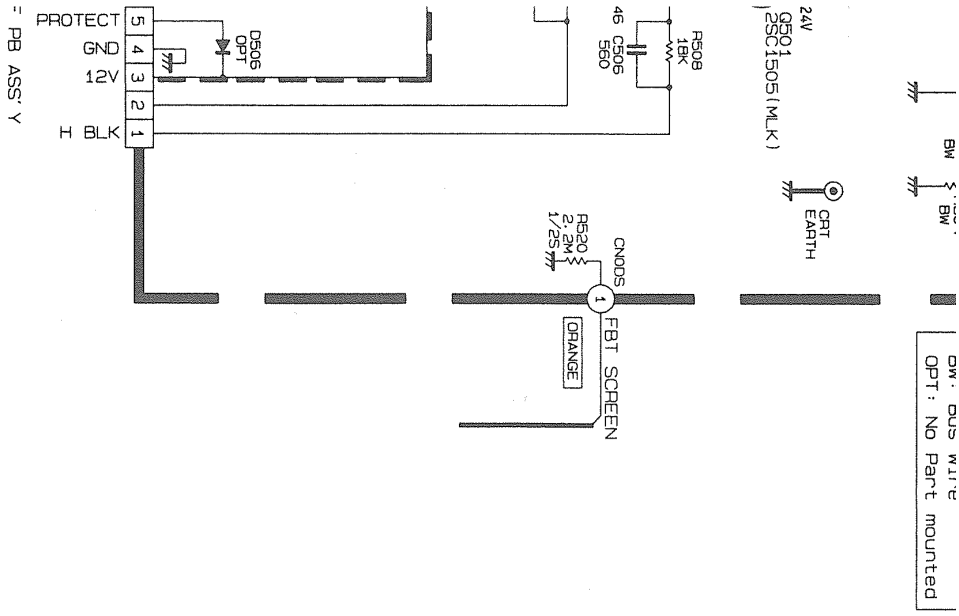
P2-36,37,38-c

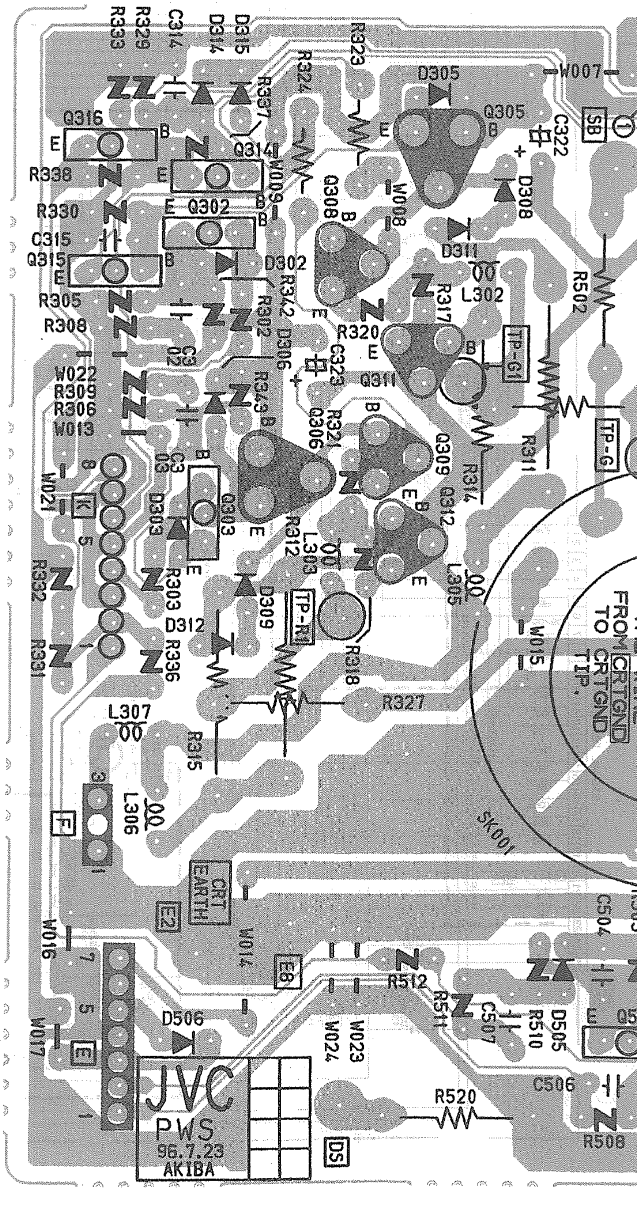
P2-36,37,38-d

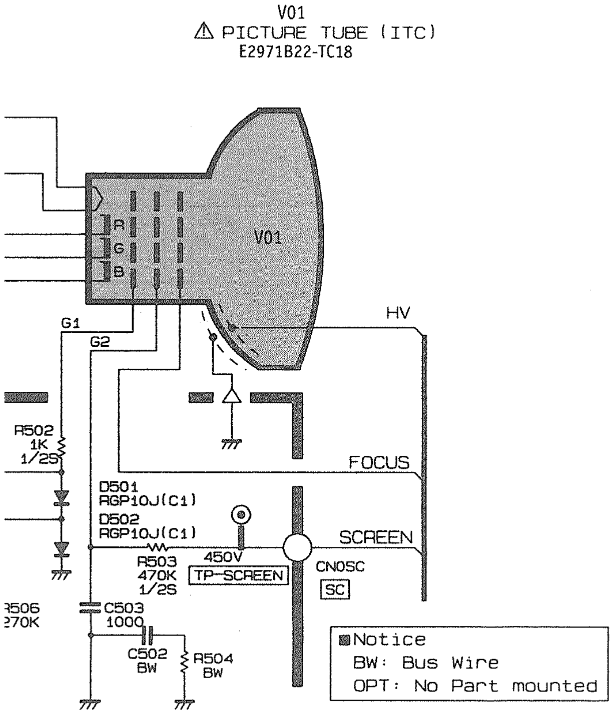

CRT SOCKET
PWB ASS'Y
FX-3028A
3O
SIGNAL
PB ASS'Y
CN00K
K
B
GND
G
GND
R
GND
Ik
525CTRL
8
7
6
5
4
3
2
1
R301
150
2.55Vp-p(H)
R302
150
R303
150
R512 BW
R331
1K
Q316
OPT
R332
OPT
R338
BW
R333
OPT
Q313
OPT
R328
OPT
C313
OPT
D313
BW
D316
MA4075(M)
Q314
OPT
R337
BW
R329
OPT
C314
OPT
D314
BW
Q315
OPT
R330
OPT
C315
OPT
D315
BW
R335
OPT
R334
OPT
TP-E
CN00E
E
HEATER
PROTECT
GND
DEF PB A
7
6
5
4
D506
OPT
R341
3.3K
D301
MA165
2.5V
1.8V
R304
180
R307
BW
C301
220
Q301
2SC4502
10.8V
B
D304
1SS244
10.8V
Q304
2SC4544
80.0V
6.5V
R322
1K
1/4W
QRD149J
-102S
2SA1321
R342
3.3K
D302
MA165
2.2V
1.5V
R305
180
R308
BW
C302
220
Q302
2SC4502
G
D305
1SS244
10.8V
Q305
2SC4544
87.0V
C322
OPT
6.4V
R323
1K
1/4W
QRD149J
-102S
R343
3.3K
D303
MA165
2V
1.4V
R306
180
R309
BW
C303
180
Q303
2SC4502
10.8V
R
D306
1SS244
10.8V
Q306
2SC4544
C323
OPT
6.4V
R324
1K
1/4W
QRD149J
-102S
2SA1321
Q503
OPT
C508
OPT
C504
OPT
C509
OPT
R505
OPT
D505
OPT
R510
OPT
C507
OPT
R511
OPT
D503
1SS146
C506
560
R509
4.7K
R508
18K
Q502
OPT
R507
8.2K
2W
D504
1SS146
0V
Q501
2SC15
124V

CRT SOCKET CIRCUIT DIAGRAM / PATTERN DIAGRAM (FX-3028A)

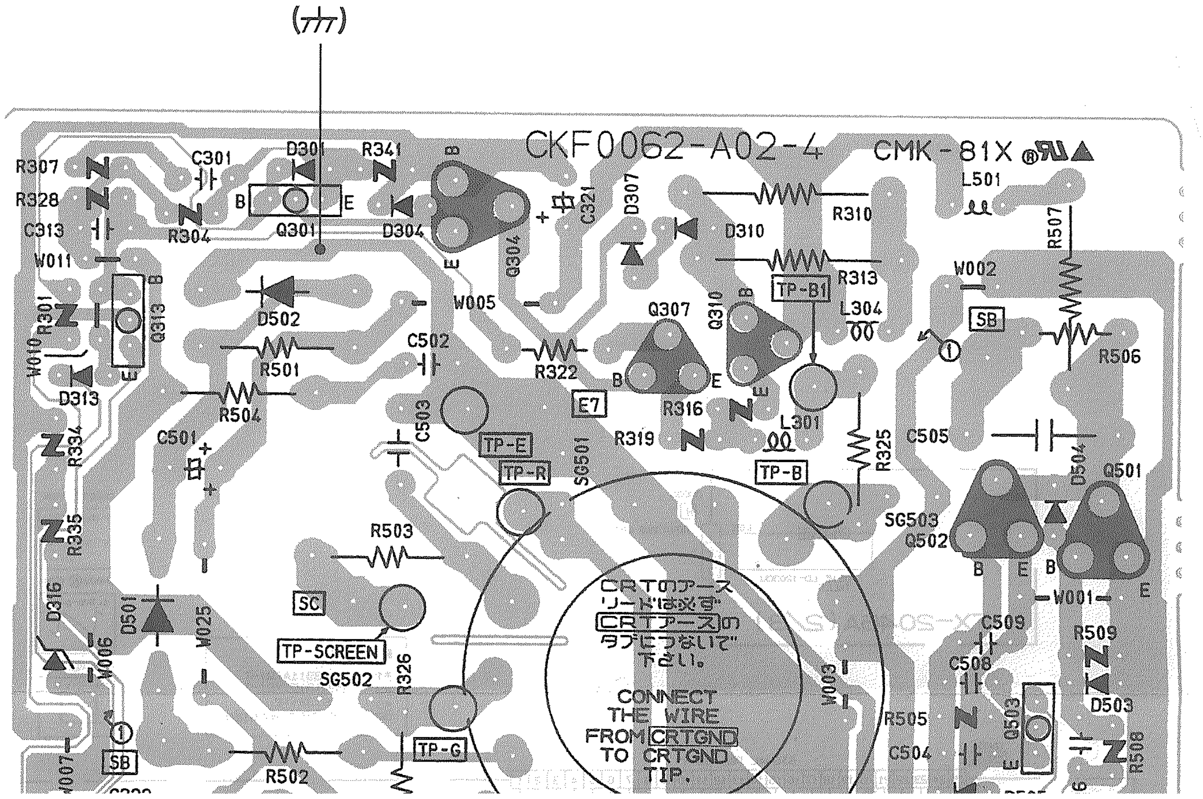

POWER PB ASS' Y
CN00F
F
3
2
1
L307
BW
C324
OPT
C321
1/250
45Vp-p(H)
TP-B
R325
680
1/2S
TP-B1
L304
22
R310
10K
2W
R313
10K
2W
80.0V
141.0V
Q310
2SC3334
77.1V
L301
5.6
D310
BW
R316
BW
D307
1SS120
R319
BW
77.7V
80.0V
Q307
2SA1321
6.5V
C322
OPT
45Vp-p(H)
TP-G
R326
680
1/2S
TP-G1
L305
18
R311
10K
2W
R314
10K
2W
87.7V
141.0V
Q311
2SC3334
84.8V
L302
4.7
D311
BW
R317
BW
D308
1SS120
R320
BW
85.2V
Q308
2SA1321
87.0V
6.4V
R323
C323
OPT
SG502
OPT
SG503
OPT
SG501
OPT
L306
22
R312
10K
2W
R315
10K
2W
80.7V
141.0V
Q312
2SC3334
78.5V
L303
3.9
D312
BW
R318
BW
D309
1SS120
R321
BW
78.4V
80.0V
Q309
2SA1321
6.4V
R324
45Vp-p(H)
TP-R
R327
680
1/2S
TP-R1
SK001
CRT SOCKET
CE42446-001
HEATER
GND
-R
-G
-B
G
C501
1/250
R501
1M
1/2S
L501
5.6mH
C505
56/400
R506
270K
R507
8.2K
2W
R502
1K
1/2S


PROTECT
GND
12V
H BLK
5
4
3
2
1
PB ASS'Y
D506
OPT
R508
18K
C506
560
46
24V
Q501
2SC1505(MLK)
CRT
EARTH
BW
R520
2.2M
1/2S
CNODS
FBT SCREEN
ORANGE
OPT: No Part mounted


JVC
PWS
96.7.23
AKIBA
SK001
FROM CRTGND
TO CRTGND
TIP.
CRT
EARTH
TP-G1
TP-G
TP-R1
Q305
Q306
Q308
Q309
Q311
Q312
Q302
Q303
Q314
Q315
Q316
D302
D303
D305
D306
D308
D309
D311
D312
D314
D315
D505
D506
R302
R303
R305
R306
R308
R309
R311
R312
R314
R315
R317
R318
R320
R321
R323
R324
R327
R329
R330
R331
R332
R333
R336
R337
R338
R342
R343
R502
R508
R510
R511
R512
R520
C302
C303
C314
C315
C322
C323
C504
C506
C507
L302
L303
L305
L306
L307
W007
W008
W009
W013
W014
W015
W016
W017
W021
W022
W023
W024
SB
DS
E2
E8
K
F
E


V01
⚠ PICTURE TUBE (ITC)
E2971B22-TC18
V01
R
G
B
G1
G2
HV
FOCUS
SCREEN
R502
1K
1/2S
D501
RGP10J(C1)
D502
RGP10J(C1)
R503
470K
1/2S
450V
TP-SCREEN
CNOSC
SC
R506
270K
C503
1000
C502
BW
R504
BW

■Notice
BW: Bus Wire
OPT: No Part mounted


CKF0062-A02-4
CMK-81X
R307
R328
C313
W011
C301
D301
B
E
Q301
R304
R341
D304
Q304
C321
D307
D310
R310
R313
TP-B1
L304
L501
W002
R507
SB
R506
R301
Q313
W010
D313
D502
R501
R504
W005
C502
R322
E7
Q307
Q310
R316
L301
R319
C505
R325
TP-B
D504
Q501
SG503
Q502
C501
C503
TP-E
TP-R
SG501
R334
R335
R503
SC
TP-SCREEN
SG502
D316
D501
W025
W006
R326
TP-G
W007
R502
W003
W001
C509
C508
R509
D503
R505
C504
Q503
R508
CRTのアースリードは必ずCRTアースのタブにつないで下さい。
CONNECT THE WIRE FROM CRTGND TO CRTGND TIP.

PARTS LIST

CAUTION

- The parts identified by the ⚠ symbol are important for the safety . Whenever replacing these parts, be sure to use specified ones to secure the safety .
- The parts not indicated in this Parts List and those which are filled with lines —— in the Parts No. columns will not be supplied .
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied .
- As a rule, the resistors and capacitors which are indicated as shown in "HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS" are not shown in the list of the parts on the board .
  When ordering the service parts, confirm the resistance/rated power, capacitance/rated voltage, and type of the parts, then order by the part No. indicated according to "HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS" .

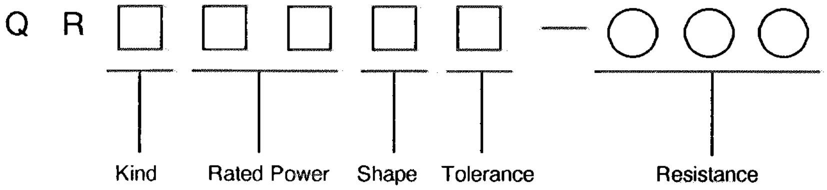
ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
HV R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

TOLERANCES									
F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30% - 10%	+50% - 10%	+80% - 20%	+100% - 0%

HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS

■ RESISTOR


Q R □ □ □ □ □ — ○ ○ ○
Kind
Rated Power
Shape
Tolerance
Resistance

Symbol	Part Name
C	COMP.R
D	C R
S	CH MG R

Symbol	Rated Power
0 1	1 w
1 2	1/2 w
1 4	1/4 w
1 6	1/6 w
1 8	1/8 w

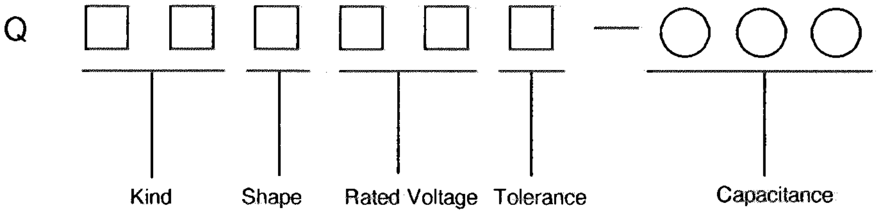
Symbol	Shape
1	Straight lead
8	Chip

Indicate with first two-figure expressed by Ω and following 0.
please note that,in case of resistance less than 10 Ω, a letter "R"will be effective as point.

EX.

2.2 Ω = 2R2
470 Ω = 47×10^{1} → 471
150kΩ = 15×10^{4} → 154

■ CAPACITOR


Q □ □ □ □ □ □ — ○ ○ ○
Kind
Shape
Rated Voltage
Tolerance
Capacitance

Symbol	Part Name
CS	C CAP.
CS	CH C CAP.
ET	E CAP.
FM	M CAP.

5Figure / 6Figure	0	1	2
A		10V	100V
C		16V	160V
D			200V
E		25V	250V
H		50V	500V
J	6.3V	63V	
V		35V	

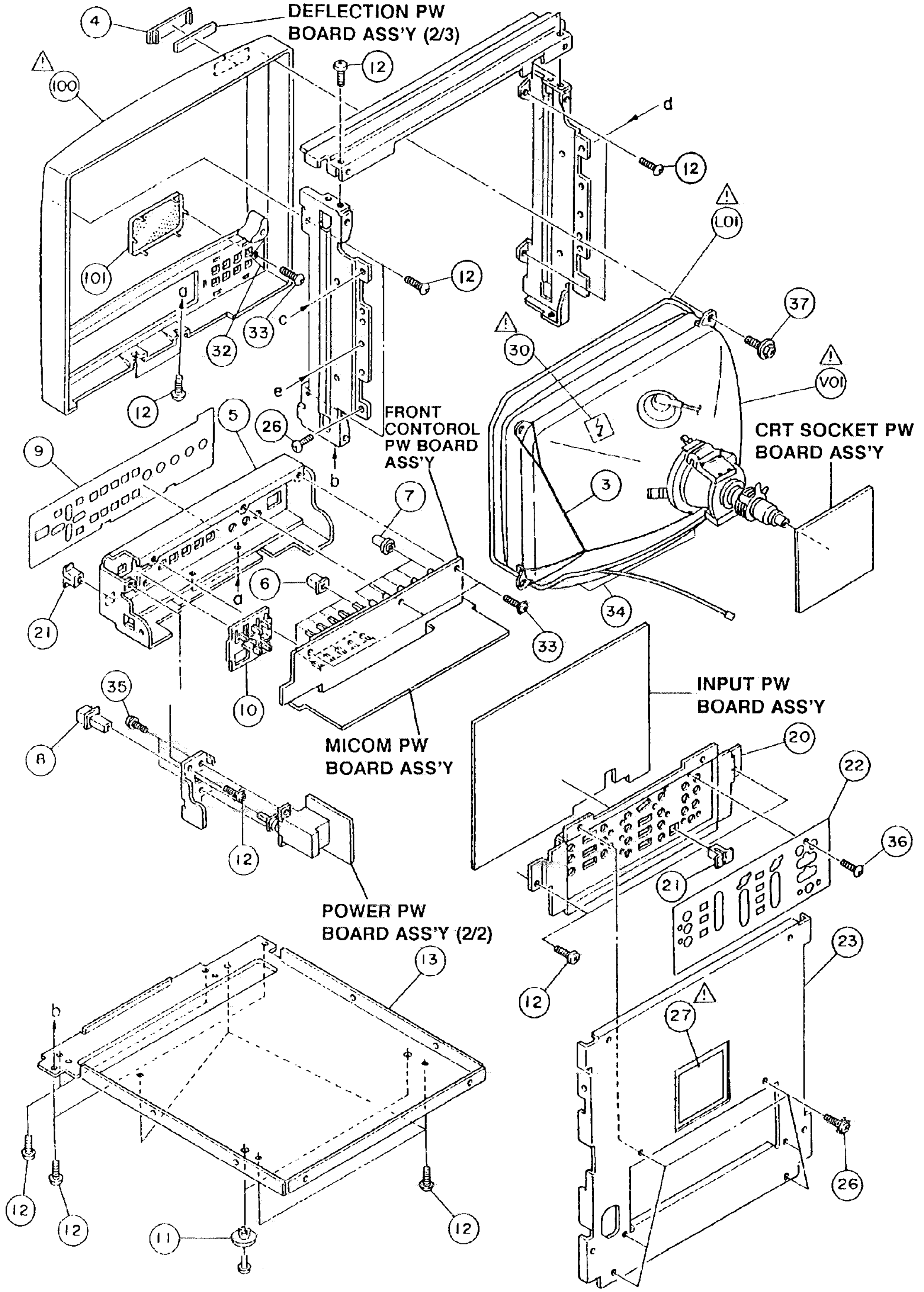
Indicate with first two-figure expressed by pF and following 0.
Please note that,in case of capacitance less than 10 pF a letter "R" will be effective as point.

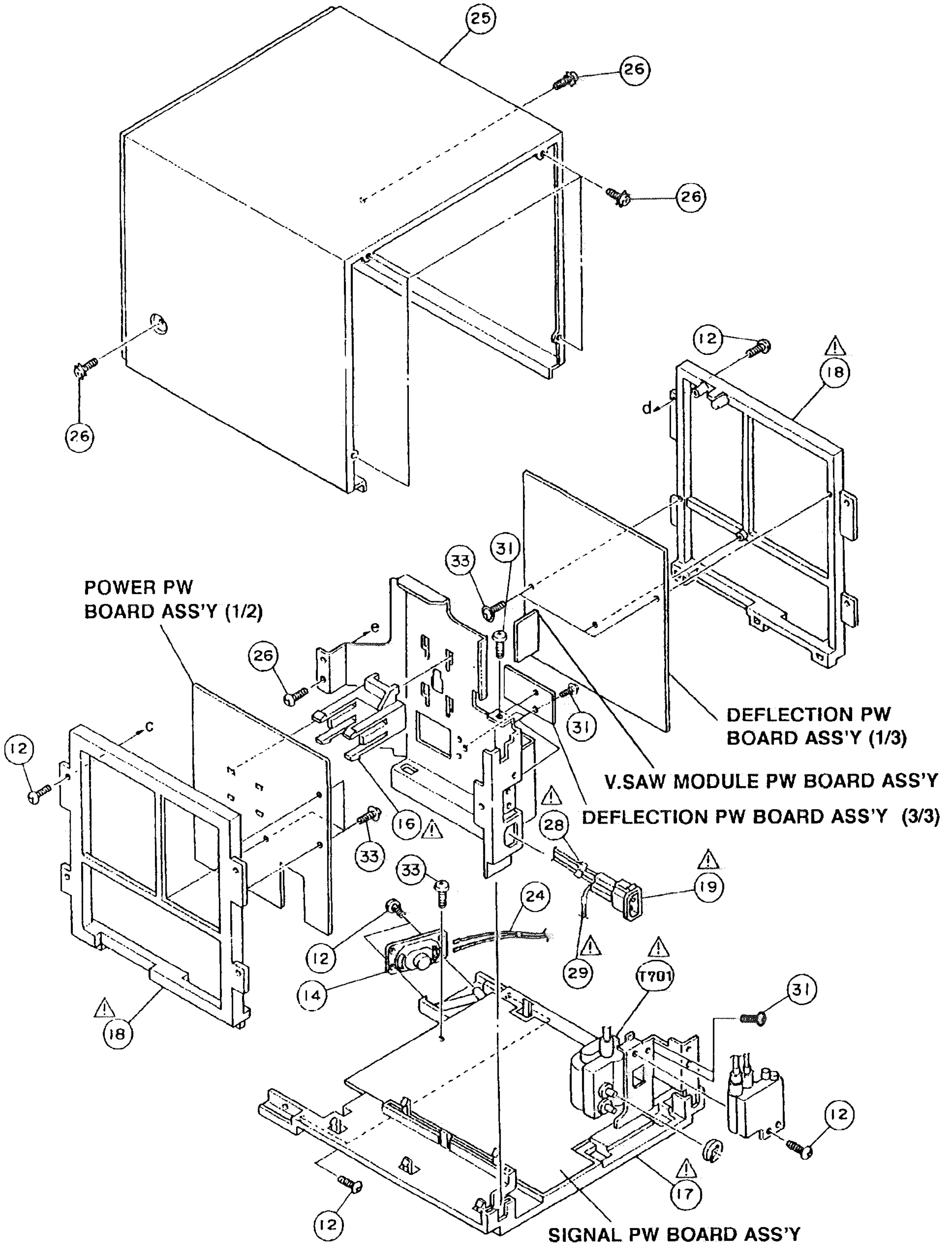
EX

5pF = 5R0
1000pF = 10×10^{2} → 102
47μF = 47×10^{6} → 476

Symbol	Shape
1	Straight lead
1	Leads in the same direction
8	Chip
A	Leads in the same direction (compact part)

EXPLODED VIEW


4
DEFLECTION PW BOARD ASS'Y (2/3)
100
12
d
12
101
33
32
c
a
12
L01
37
12
30
V01
e
FRONT CONTOROL PW BOARD ASS'Y
26
b
CRT SOCKET PW BOARD ASS'Y
5
9
7
3
6
a
21
33
34
10
35
8
MICOM PW BOARD ASS'Y
INPUT PW BOARD ASS'Y
20
22
36
12
POWER PW BOARD ASS'Y (2/2)
21
13
23
12
27
b
26
12
12
11
12


d
POWER PW BOARD ASS'Y (1/2)
e
c
DEFLECTION PW BOARD ASS'Y (1/3)
V.SAW MODULE PW BOARD ASS'Y
DEFLECTION PW BOARD ASS'Y (3/3)
T701
SIGNAL PW BOARD ASS'Y

EXPLODED VIEW PARTS LIST

⚠	Ref.No.	Part No.	Part Name	Description	Local
⚠	V01	E2971B22-TC18	ITC TUBE		
⚠	L01	CELD050-001	DEGAUSSING COIL		
⚠	T701	CJ27992-00B	FLYBACK TRANSF.		
	3	CH30459-00C	BRAIDED ASSY		
	4	CM44530-E01	TALLY PLATE		
	5	CM22773-A01	CONTROL BKT		
	6	CM46044-001	PUSH KNOB	×10	
	7	CM47853-005	VOLUME KNOB	×5	
	8	CM46115-C01	POWER KNOB		
	9	CM35943-002	CONTROL SHEET		
	10	CM35942-C01	CURSOL KNOB		
	11	CM47686-00A	FOOT	×2	
	12	SBSF4012Z	T.SCREW	×26	
	13	CM12551-A01	BOTTOM COVER		
	14	9050-03T	CONE SPEAKER	SP01	
⚠	16	CM22752-001-V0	TRANSF HOLDER		
⚠	17	CM12531-001-V0	CHASSIS BASE		
⚠	18	CM12530-B01-V0	PB BASE	×2	
⚠	19	QMCB004-001	3P INLET		
	20	CM35946-A01	TERMINAL PANEL		
	21	CM48005-001	LINKAGE BUSHING	×2	
	22	CM35944-A02	TERMINAL SHEET		
	23	CM12550-002	REAR PANEL		
	24	CHGS0003-0E-G	S.P WIRE ASSY		
	25	CM12535-001	TOP COVER		
	26	CM44287-00C	ASSY SCREW	×16	
⚠	27	CM22867-021(R)	ROLL R LABEL		
⚠	28	CHGY0032-0A-G	CONNECTOR ASSY		
⚠	29	CHGY0033-0A-G	RECEP WIRE ASSY		
⚠	30	CM48050-001	HV LABEL		
	31	CM44287-00B	ASSY SCREW	×6	
	32	CM48065-001	EARTH PLATE		
	33	GBSF3012Z	T.SCREW	×10	
	34	CM42321-007	SPONGE		
	35	LPSP3008Z	ASSY SCREW	×2	
	36	SBSG3008M	T.SCREW	×17	
	37	CM42937-001	ASSY SCREW	×4	
⚠	100	CM12533-C0B-M0	FRONT PANEL ASSY	Inclued No.101	
	101	CM47947-001	SPEAKER NET		

PRINTED WIRING BOARD PARTS LIST

SIGNAL PW BOARD ASS'Y (FX-1084A)

⚠ Ref.No.	Part No.	Part Name	Description	Local
VARIABLE RESISTOR				
R1107	QVPC611-202HZ	V R	2kΩ B(COMB1 LEVEL)	
R1117	QVPC611-501HZ	V R	500 Ω B(COMB2 LEVEL)	
R1120	QVPC611-202HZ	V R	2kΩ B(COMB2 PHASE)	
R1210	QVPC611-202HZ	V R	2kΩ B(DL AMP)	
CAPACITOR				
C1102-06	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1107	NCT03CH-121AY	CHIP CAP.	120pF 50V J	
C1108	NCT03CH-470AY	CHIP CAP.	47pF 50V J	
C1109-10	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1111	NCT03CH-560AY	CHIP CAP.	56pF 50V J	
C1112-13	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1114	QEN61CM-476Z	BP E CAP.	47μF 16V M	
C1115	NCT03CH-120AY	CHIP CAP.	12pF 50V J	
C1116	NCT03CH-560AY	CHIP CAP.	56pF 50V J	
C1117	QAT3110-300A	TRIM CAP.	30pF 100V	
C1118	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1122	QAT3110-300A	TRIM CAP.	30pF 100V	
C1123	NCT03CH-101AY	CHIP CAP.	100pF 50V J	
C1124	NCB21HK-822AY	CHIP CAP.	8200pF 50V K	
C1201-02	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1203	NCT03CH-680AY	CHIP CAP.	68pF 50V J	
C1204	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1205	NCT03CH-820AY	CHIP CAP.	82pF 50V J	
C1206-07	QAT3110-450A	TRIM CAP.	45pF 100V	
C1208	NCT03CH-121AY	CHIP CAP.	120pF 50V J	
C1209	QAT3110-450A	TRIM CAP.	45pF 100V	
C1210	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1211	NCT03CH-221AY	CHIP CAP.	220pF 50V J	
C1212	NCB21HK-273AY	CHIP CAP.	0.027μF 50V K	
C1213	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1217	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1218	QEN61CM-106Z	BP E CAP.	10μF 16V M	
C1219	QFLC1HJ-153MZ	M CAP.	0.015μF 50V J	
C1220	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1221	NCT03CH-270AY	CHIP CAP.	27pF 50V J	
C1222	QAT3110-300A	TRIM CAP.	30pF 100V	
C1223	NCT03CH-270AY	CHIP CAP.	27pF 50V J	
C1224	QAT3110-300A	TRIM CAP.	30pF 100V	
C1225	NCT03CH-470AY	CHIP CAP.	47pF 50V J	
C1226	NCT03CH-390AY	CHIP CAP.	39pF 50V J	
C1227	NCT03CH-6R0AY	CHIP CAP.	6.0pF 50V J	
C1228	NCT03CH-181AY	CHIP CAP.	180pF 50V J	
C1229	NCT03CH-390AY	CHIP CAP.	39pF 50V J	
C1230	NCT03CH-6R0AY	CHIP CAP.	6.0pF 50V J	
C1231	NCT03CH-181AY	CHIP CAP.	180pF 50V J	
C1234	NCB21HK-473AY	CHIP CAP.	0.047μF 50V K	
C1235	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1237	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1238	NCB21HK-223AY	CHIP CAP.	0.022μF 50V K	
C1239	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1240	NCB21HK-393AY	CHIP CAP.	0.039μF 50V K	
C1302	QFV71HJ-104MZ	TF CAP.	0.1μF 50V J	
C1306	QFV71HJ-104MZ	TF CAP.	0.1μF 50V J	
C1309	NCT03CH-8R0AY	CHIP CAP.	8.0pF 50V J	
C1332	QFV71HJ-104MZ	TF CAP.	0.1μF 50V J	
C1336	QFV71HJ-104MZ	TF CAP.	0.1μF 50V J	
C1362	QFV71HJ-104MZ	TF CAP.	0.1μF 50V J	
C1366	QFV71HJ-104MZ	TF CAP.	0.1μF 50V J	
C1382	NCB21HK-473AY	CHIP CAP.	0.047μF 50V K	
C1383	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C1402	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	

⚠	Symbol No.	Part No.	Part Name	Description	Local
	CAPACITOR				
	C1403	QEN61HM-105Z	BP E CAP.	1 μF 50V M	
	C1406-07	QFV71HJ-104MZ	TF CAP.	0.1 μF 50V J	
	C1410	QFV71HJ-104MZ	TF CAP.	0.1 μF 50V J	
	C1452	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	
	C1453-54	NCB21HK-473AY	CHIP CAP.	0.047 μF 50V K	
	C1456-58	QEN61HM-105Z	BP E CAP.	1 μF 50V M	
	C1461	QFV71HJ-334MZ	TF CAP.	0.33 μF 50V J	
	C1462	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
	C1463-65	QFV71HJ-224MZ	TF CAP.	0.22 μF 50V J	
	C1467	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	
	C1469	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	
	C1502	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	
	C1503	QEN61CM-476Z	BP E CAP.	47 μF 16V M	
	C1504	QEN61HM-105Z	BP E CAP.	1 μF 50V M	
	C1505	NCB21HK-222AY	CHIP CAP.	2200 pF 50V K	
	C1508-09	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	
	C1511	NCB21HK-222AY	CHIP CAP.	2200 pF 50V K	
	C1512	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
	C1513	NCT03CH-101AY	CHIP CAP.	100 pF 50V J	
	C1516	NCT03CH-181AY	CHIP CAP.	180 pF 50V J	
	C1517	NCT03CH-151AY	CHIP CAP.	150 pF 50V J	
	C1552-54	NCB21HK-473AY	CHIP CAP.	0.047 μF 50V K	
	C1555	NCT03CH-391AY	CHIP CAP.	390 pF 50V J	
	C1556	NCT03CH-331AY	CHIP CAP.	330 pF 50V J	
	C1557-58	NCB21HK-222AY	CHIP CAP.	2200 pF 50V K	
	C1559	NCT03CH-5R0AY	CHIP CAP.	5 pF 50V J	
	C1560	QAT3110-450A	TRIM.CAP.	45 pF 100V	
	C1561	NCT03CH-680AY	CHIP CAP.	68 pF 50V J	
	C1562	NCT03CH-470AY	CHIP CAP.	47 pF 50V J	
	C1563	NCT03CH-680AY	CHIP CAP.	68 pF 50V J	
	C1564	NCT03CH-121AY	CHIP CAP.	120 pF 50V J	
	C1567	QFP31HJ-153SZ	PP CAP.	0.015 μF 50V J	
	C1568	NCB21HK-222AY	CHIP CAP.	2200 pF 50V K	
	C1571	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	
	C1601	QEHC1CM-107MZ	E CAP.	100 μF 16V M	
	C1602	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	
	C1603	QEHC1HM-105MZ	E CAP.	1 μF 50V M	
	C1605	QFV71HJ-104MZ	TF CAP.	0.1 μF 50V J	
	C1607	QEHC1CM-227MZ	E CAP.	220 μF 16V M	
	C1610	QFV71HJ-104MZ	TF CAP.	0.1 μF 50V J	
	C1611	NCB21HK-333AY	CHIP CAP.	0.033 μF 50V K	
	C1612	QEHC1HM-475MZ	E CAP.	4.7 μF 50V M	
	C1702	QFLC1HK-473MZ	M CAP.	0.047 μF 50V K	
⚠	C1703	QFZ0117-1001S	MPP CAP.	1000 pF 2000V ± 2.5%	
	TRANSFORMER				
	T1101	CE41072-001	B.PASS TRANSF.		
	T1102	CE40176-001	DL P.TRANSF.		
	T1201	CELT034-002	B.PASS TRANSF.		
	COIL				
	L1101	CELP026-100Z	PEAKING COIL	10 μH	
	L1102	CELP026-150Z	PEAKING COIL	15 μH	
	L1103	CELP026-5R6Z	PEAKING COIL	5.6 μH	
	L1104	CELP026-270Z	PEAKING COIL	27 μH	
	L1201-02	CELP026-8R2Z	PEAKING COIL	8.2 μH	
	L1203	CELP026-390Z	PEAKING COIL	39 μH	
	L1204	CELP026-4R7Z	PEAKING COIL	4.7 μH	
	L1206-07	CELP026-820Z	PEAKING COIL	82 μH	
	L1601	CELP026-4R7Z	PEAKING COIL	4.7 μH	
	DIODE				
	D1101	MA151K-X	DIODE		
	D1201-03	MA151K-X	DIODE		
	D1451-56	MA3082(M)-X	CHIP ZENER DIODE		
	D1501	MA151K-X	DIODE		
	D1502	MA3047(L)-X	CHIP ZENER DIODE		

⚠ Symbol No.	Part No.	Part Name	Description	Local
DIODE				
D1702	1SS81-T5	SI.DIODE		
TRANSISTOR				
Q1101-05	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1106-07	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1108-15	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1116-17	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1118	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1201-08	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1210	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1212	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1301-02	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1303	2SK374(Q)-X	F.E.T.		
Q1304-06	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1307	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1308	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1331-32	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1333	2SK374(Q)-X	F.E.T.		
Q1334	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1361-62	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1363	2SK374(Q)-X	F.E.T.		
Q1364	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1451-53	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1454	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1455-62	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1501	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1502-05	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1506	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1507-09	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1510	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1511-15	2SC2712(YG)-X	CHIP TRANSISTOR		
IC				
IC1101	TC4053BP	I.C(DIGI-MOS)		
IC1201	AN5625N	I.C(MONO-ANA)		
IC1202	TC4053BP	I.C(DIGI-MOS)		
IC1203	AN5640	I.C(MONO-ANA)		
IC1204	UPC358HA	I.C(MONO-ANA)		
IC1301-03	UPC358HA	I.C(MONO-ANA)		
IC1304-05	TC4053BP	I.C(DIGI-MOS)		
IC1401	TDA4672	I.C(MONO-ANA)		
IC1402	TDA4680/V6	I.C(DIGI-OTHER)		
IC1403	AN7808	I.C.		
IC1501	TC4053BP	I.C(DIGI-MOS)		
IC1502-08	TC4538BP	I.C(DIGI-MOS)		
IC1509	TC4053BP	I.C(DIGI-MOS)		
IC1510	HD74LS00P	I.C(DIGI-OTHER)		
IC1511	HD74LS05P	I.C(DIGI-OTHER)		
IC1601	AN5265	I.C.		
OTHERS				
CN1002	CHA401N-25P-J	HQF CONNECTOR		
DL1101	CE41577-002	DELAY LINE		
DL1102	CE40959-001	DELAY LINE		
DL1201	CE41489-001	DELAY LINE(1H)		
X1201	CE40668-001	CRYSTAL		
X1202	CE41953-001	CRYSTAL		

DEFLECTION PW BOARD ASS'Y (FX-2046A)

⚠	Symbol No.	Part No.	Part Name	Description	Local
	VARIABLE RESISTOR				
	R2313	QVPC611-503HZ	V R	50kΩ B(SCREEN)	
	R2416	QVPC611-102HZ	V R	1kΩ B(V.CENTER)	
	R2503	QVPC611-502HZ	V R	5kΩ B(H.HOLD)	
	R2582	QVPC611-303HZ	V R	30kΩ B(H.PHASE)	
	R2612	QVPC611-502HZ	V R	5kΩ B(HVC)	
	RESISTOR				
	R2419	QRX029J-1R0	MF R	1.0 Ω 2W J	
	R2420	QRG029J-270	OM R	27 Ω 2W J	
	R2422	QRG019J-101S	OM R	100 Ω 1W J	
	R2440	QRF074K-3R3	UNF R	3.3 Ω 7W K	
	R2512-13	QRF074K-4R7	UNF R	4.7 Ω 7W K	
	R2515	QRG029J-182	OM R	1.8kΩ 2W J	
	R2520	QRG029J-221	OM R	220 Ω 2W J	
	R2530-31	QRX029J-4R7	MF R	4.7 Ω 2W J	
	R2532	QRG029J-222	OM R	2.2kΩ 2W J	
	R2548-49	QRG029J-221	OM R	220 Ω 2W J	
	R2550	QRG029J-152	OM R	1.5kΩ 2W J	
	R2592	QRX029J-R56A	MF R	0.56 Ω 2W J	
	R2593	QRX029J-R82A	MF R	0.82 Ω 2W J	
⚠	R2714	QRV141F-2702AY	MF R	27kΩ 1/4W F	
⚠	R2715	QRV141F-6801AY	MF R	6.8kΩ 1/4W F	
	R2801	QRG029J-100	OM R	10 Ω 2W J	
	CAPACITOR				
	C2301	QFLC1HK-102MZ	M CAP.	1000 pF 50V K	
	C2302	QEHC1HM-106MZ	E CAP.	10 μF 50V M	
	C2303	QFZ0117-4701S	MPP CAP.	4700 pF 2000V ±2.5%	
	C2304	QEHC1HM-476MZ	E CAP.	47 μF 50V M	
	C2305	QEN61CM-106Z	BP E CAP.	10 μF 16V M	
	C2402	QFLC1HK-823MZ	M CAP.	0.082 μF 50V K	
	C2403	QEHC1HM-475MZ	E CAP.	4.7 μF 50V M	
	C2406	QEHC1CM-107MZ	E CAP.	100 μF 16V M	
	C2408	QEHC1HM-227MZ	E CAP.	220 μF 50V M	
	C2409	QFV71HJ-104MZ	TF CAP.	0.1 μF 50V J	
	C2410	QFLB2AK-154M	M CAP.	0.15 μF 100V K	
	C2412	QFLC2AJ-102MZ	M CAP.	1000 pF 100V J	
	C2413	QFLC1HK-153MZ	M CAP.	0.015 μF 50V K	
	C2415	QEHC1VM-107MZ	E CAP.	100 μF 35V M	
	C2416-17	QEHC1EM-108MZ	E CAP.	1000 μF 25V M	
	C2418	QEHC1EM-477MZ	E CAP.	470 μF 25V M	
	C2419	QEHC1EM-227MZ	E CAP.	220 μF 25V M	
	C2420	QEHC1CM-337MZ	E CAP.	330 μF 16V M	
	C2421	QEHC1EM-477MZ	E CAP.	470 μF 25V M	
	C2422	QEHB1VM-108M	E CAP.	1000 μF 35V M	
	C2423	QEHC1CM-107MZ	E CAP.	100 μF 16V M	
	C2425	QEHC1EM-227MZ	E CAP.	220 μF 25V M	
	C2426	QEHC1CM-337MZ	E CAP.	330 μF 16V M	
	C2427	QEHC1EM-227MZ	E CAP.	220 μF 25V M	
	C2428	QEHC1CM-337MZ	E CAP.	330 μF 16V M	
	C2502	QFP31HJ-332SZ	PP CAP.	3300 pF 50V J	
	C2503	QFLC1HJ-222MZ	M CAP.	2200 pF 50V J	
	C2504	QFV71HJ-824MZ	TF CAP.	0.82 μF 50V J	
	C2505	QFLC1HJ-822MZ	M CAP.	8200 pF 50V J	
	C2511	QFLC1HK-563MZ	M CAP.	0.056 μF 50V K	
	C2512	QFLC1HK-153MZ	M CAP.	0.015 μF 50V K	
	C2514	QFLC2AK-104MZ	M CAP.	0.1 μF 50V K	
⚠	C2518	QFZ0119-155S	MPP CAP.	1.5 μF 200V ±3%	
⚠	C2519	QFZ0119-155S	MPP CAP.	1.5 μF 200V ±3%	
⚠	C2520	QFZ0119-304S	MPP CAP.	0.3 μF 200V ±3%	
	C2524	QFLC1HK-104MZ	M CAP.	0.1 μF 50V K	
⚠	C2525	QFZ0117-1801S	MPP CAP.	1800 pF 2000V ±2.5%	
	C2526	QEHC1EM-108MZ	E CAP.	1000 μF 25V M	
	C2527	QFLC1HK-473MZ	M CAP.	0.047 μF 50V K	
	C2528	QEHC1CM-108MZ	E CAP.	1000 μF 16V M	

⚠	Symbol No.	Part No.	Part Name	Description	Local
	CAPACITOR				
	C2529	QEHC1EM-108MZ	E CAP.	1000 µF 25V M	
⚠	C2530	QFZ0117-7001S	MPP CAP.	7000 pF 2000V ±2.5%	
⚠	C2531	QFZ0117-3001S	MPP CAP.	3000 pF 2000V ±2.5%	
⚠	C2532	QFZ0117-9001S	MPP CAP.	9000 pF1.4kVH ±2.5%	
	C2533	QEHC1EM-108MZ	E CAP.	1000 µF 25V M	
	C2537-38	QEZ0195-475MZ	E CAP.	4.7 µF 50V M	
	C2539	QEHB1CM-228M	E CAP.	2200 µF 16V M	
	C2555-56	QCT25CH-680Z	C CAP.	68 pF 50V J	
	C2557	QCT25CH-560Z	C CAP.	56 pF 50V J	
	C2558	QFV71HJ-104MZ	TF CAP.	0.1 µF 50V J	
	C2561	QEN61HM-474Z	BP E CAP.	0.47 µF 50V M	
	C2562	QEN61HM-475Z	BP E CAP.	4.7 µF 50V M	
	C2601	QFLC1HJ-103MZ	M CAP.	0.01 µF 50V J	
	C2602	QEHC1CM-107MZ	E CAP.	100 µF 16V M	
	C2603	QFV71HJ-104MZ	TF CAP.	0.1 µF 50V J	
	C2701	QETC1HM-106Z	E CAP.	10 µF 50V M	
	C2702	QEHC1HM-107MZ	E CAP.	100 µF 50V M	
	C2703	QEHC1CM-337MZ	E CAP.	330 µF 16V M	
	C2704	QEHC1EM-107MZ	E CAP.	100 µF 25V M	
	C2705	QEN61EM-107Z	BP E CAP.	100 µF 25V M	
	C2801	QEHB1VM-108M	E CAP.	1000 µF 35V M	
	TRANSFORMER				
⚠	T2502	CE42034-001	H.DRIVE TRANSF.		
	T2505	CE41916-00B	CHOPPER TRANSF		
	COIL				
⚠	L2502	CELL008-001	LINIARITY COIL		
	L2701	CJ30030-028	HEATER CHOKE		
	DIODE				
	D2301	RU4DS-C1	SI.DIODE		
	D2302	1SS133-T2	SI.DIODE		
	D2303	MA4062(M)-T2	ZENER DIODE		
	D2304	1SS133-T2	SI.DIODE		
	D2305	RD9.1ES(B3)-T2	ZENER DIODE		
	D2306-09	1SS133-T2	SI.DIODE		
	D2310	RD3.3ES(B2)-T2	ZENER DIODE		
	D2401	1SS133-T2	SI.DIODE		
	D2402	RGP10J(C1)-T3	SI.DIODE		
	D2404	RU30-C1	SI.DIODE		
	D2405	RD3.9ES(B2)-T2	ZENER DIODE		
	D2406	RD75E(B)-T5	ZENER DIODE		
	D2407	1SS133-T2	SI.DIODE		
⚠	D2501	ERD07-15-L	SI.DIODE		
	D2502	1SS133-T2	SI.DIODE		
	D2503	RD10ES(B3)-T2	ZENER DIODE		
	D2504-05	RH4F-C1	SI.DIODE		
	D2506-07	RU3AM-LFC4	SI.DIODE		
	D2509	RU4AM-C1	SI.DIODE		
	D2510	MA165-T2	SI.DIODE		
	D2511	RU3AM-LFC4	SI.DIODE		
	D2512	1SS81-T2	SI.DIODE		
	D2513	MA4220(M)-T2	ZENER DIODE		
	D2515	LD-1203DU	L.E.D.(ORG)	TALLY	
	D2601-02	1SS81-T2	SI.DIODE		
	D2603	MA4047(M)-T2	ZENER DIODE		
⚠	D2701	MA4068(N)C1-T2	ZENER DIODE		
	D2702	1SS82-T2	SI.DIODE		
	D2703-04	1SS133-T2	SI.DIODE		
	D2705	1SS146-T2	SI.DIODE		
	D2706	MA4110(M)-T2	ZENER DIODE		
	D2708	1SS133-T2	SI.DIODE		
	D2709	1SS146-T2	SI.DIODE		
	D2711	1SS133-T2	SI.DIODE		

⚠	Symbol No.	Part No.	Part Name	Description	Local
	TRANSISTOR				
	Q2301	2SC4632	SI.TRANSISTOR		
	Q2302-04	2SC1815(YG)-T	SI.TRANSISTOR		
	Q2402-05	2SC1815(YG)-T	SI.TRANSISTOR		
	Q2501	2SC3187-T	SI.TRANSISTOR		
⚠	Q2502	2SC4589-C1	SI.TRANSISTOR	H.OUT	
	Q2504	2SA1309A(R)-T	SI.TRANSISTOR		
	Q2506	2SC1815(YG)-T	SI.TRANSISTOR		
	Q2510	2SA1309A(R)-T	SI.TRANSISTOR		
	Q2551-52	2SC1815(YG)-T	SI.TRANSISTOR		
	Q2554	2SC1815(Y)-T	SI.TRANSISTOR		
	Q2556	2SC1815(YG)-T	SI.TRANSISTOR		
	Q2601	2SC1959(Y)-T	SI.TRANSISTOR		
	Q2603	2SC1959(Y)-T	SI.TRANSISTOR		
	Q2701	2SC1815(YG)-T	SI.TRANSISTOR		
	IC				
	IC2301	NJM4560D	I.C(MONO-ANA)		
	IC2303	AN79L05-Y	I.C.		
	IC2401	UPC1498H	I.C.(MONO-ANA)		
	IC2403	NJM4560D	I.C.(MONO-ANA)		
	IC2404	AN7812F	I.C.(MONO-ANA)		
	IC2405	TA79012S	I.C.(MONO-ANA)		
	IC2406	TA78L012AP-Y	I.C.(MONO-ANA)		
	IC2407	AN7812F	I.C(MONO-ANA)		
	IC2408	AN7805F	I.C(MONO-ANA)		
	IC2501	HA11423	I.C(MONO-ANA)		
	IC2551	TC4066BP	I.C(DIGI-MOS)		
	IC2553	TC4538BP	I.C(DIGI-MOS)		
	IC2554	LM2940CT-12	I.C.(MONO-ANA)		
	IC2555	AN7812F	I.C(MONO-ANA)		
	IC2601	NJM4560D	I.C(MONO-ANA)		
	OTHERS				
⚠	CP2001	ICP-N75-Y	I.C.PROTECT		
⚠	FR2301	QRH127J-182M	F R	1.8kΩ 1/2W J	
⚠	FR2426	QRH127K-R22M	F R	0.22 Ω 1/2W K	
⚠	FR2525	QRH127J-1R0M	F R	1.0 Ω 1/2W J	
⚠	FR2702	QRH127K-R22M	F R	0.22 Ω 1/2W K	
⚠	FR2704	QRH127J-4R7M	F R	4.7 Ω 1/2W J	
	K2001	CE41923-001	CORE SLEEVE		
	S2501	QSS1F22-C09	SLIDE SWITCH	FREE RUN	

CRT SOCKET PW BOARD ASS'Y (FX-3028A)

⚠ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R3310-15	QRG029J-103	OM R	10kΩ 2W J	
⚠ R3322	QRD149J-102S	C R	1kΩ 1/4W J	
⚠ R3323	QRD149J-102S	C R	1kΩ 1/4W J	
⚠ R3324	QRD149J-102S	C R	1kΩ 1/4W J	
R3507	QRG029J-822	OM R	8.2kΩ 2W J	
CAPACITOR				
C3321	QETC2EM-105Z	E CAP.	1μF 250V M	
C3501	QETC2EM-105Z	E CAP.	1μF 250V M	
C3503	QCZ0121-102M	C CAP.	1000pF 3000V P	
C3505	QFP32GK-563M	PP CAP.	0.056μF 400V K	
COIL				
L3301	CELP026-5R6Z	PEAKING COIL	5.6μH	
L3302	CELP026-4R7Z	PEAKING COIL	4.7μH	
L3303	CELP026-3R9Z	PEAKING COIL	3.9μH	
L3304	CELP026-220Z	PEAKING COIL	22μH	
L3305	CELP026-180Z	PEAKING COIL	18μH	
L3306	CELP026-220Z	PEAKING COIL	22μH	
L3501	CELC050-562Z	PEAKING COIL	5600μH	
DIODE				
D3301-03	MA165-T2	SI.DIODE		
D3304-06	1SS244-T2	SI.DIODE		
D3307-09	1SS120-T2	SI DIODE		
D3316	MA4075(M)-T2	ZENER DIODE		
D3501-02	RGP10J(C1)-T3	SI.DIODE		
D3503-04	1SS146-T2	SI.DIODE		
TRANSISTOR				
Q3301-03	2SC4502-T	SI.TRANSISTOR		
Q3304-06	2SC4544-C1	SI.TRANSISTOR		
Q3307-09	2SA1321-T	SI TRANSISTOR		
Q3310-12	2SC3334-T	SI TRANSISTOR		
Q3501	2SC1505(MLK)	SI.TRANSISTOR		
OTHERS				
⚠ SK3001	CE42446-001	CRT SOCKET		

FRONT CONTROL PW BOARD ASS'Y (FX-4034A)

⚠ Symbol No.	Part No.	Part Name	Description	Local
VARIABLE RESISTOR				
VR4101	QVGA003-CB14A	V R	10kΩ B(BRIGHT)	
VR4102	QVGA003-CB14A	V R	10kΩ B(CONTRAST)	
VR4103	QVGA003-CB14A	V R	10kΩ B(CHROMA)	
VR4104	QVGA003-CB14A	V R	10kΩ B(PHASE)	
VR4105	QVGA004-CB14A	V R	10kΩ B(VOLUME)	
CAPACITOR				
C4101	QEKC0JM-107MZ	E CAP.	100μF 6.3V M	
C4102	QCZ0207-104AZ	C CAP.	0.1μF 50V Z	
DIODE				
D4101-14	MA165-T2	SI.DIODE		
D4115-19	RD5.6ES(B3)-T2	ZENER DIODE		
D4120	GL5KG8	L E D (GRN)	POWER	
D4121-23	MA165-T2	SI.DIODE		
OTHERS				
	CM48038-001	LED HOLDER		
S4101	QSTL535-C01	PUSH SWITCH	UNDER SCAN etc	
S4102	QSTL535-C02	PUSH SWITCH	VIDEO A/B,RGB,etc	
S4103	QSP4H11-C12Z	PUSH SWITCH	MENU	
S4104	QSP4H11-C12Z	PUSH SWITCH	ENTER	
S4105	QSP4H11-C12Z	PUSH SWITCH	UP	
S4106	QSP4H11-C12Z	PUSH SWITCH	DOWN	
S4107	QSP4H11-C12Z	PUSH SWITCH	LEFT	
S4108	QSP4H11-C12Z	PUSH SWITCH	RIGHT	
S4109	QSP4H11-C12Z	PUSH SWITCH	DEGAUSS	

MICOM PW BOARD ASS'Y (FX-5018A)

⚠ Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
C5101	QEKC1CM-476MZ	E CAP.	47μF 16V M	
C5102	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C5103-04	NCF21HZ-104AY	CHIP CAP.	0.1μF 50V Z	
C5105-09	NCB21HK-103AY	CHIP CAP.	0.01μF 50V K	
C5110	NCF21HZ-104AY	CHIP CAP.	0.1μF 50V Z	
C5111	NCF21HZ-104AY	CER.CAPACITOR-M	0.1μF 50V Z	
C5112	NCF21HZ-104AY	CHIP CAP.	0.1μF 50V Z	
C5113	QEKC1CM-476MZ	E CAP.	47μF 16V M	
C5114	NCT03CH-330AY	CHIP CAP.	33pF 50V J	
C5116	NCF21HZ-104AY	CHIP CAP.	0.1μF 50V Z	
C5117	QEKC0JM-107MZ	E CAP.	100μF 6.3V M	
C5118	NCF21HZ-104AY	CHIP CAP.	0.1μF 50V Z	
C5119	QEKC0JM-107MZ	E CAP.	100μF 6.3V M	
C5120	NCF21HZ-104AY	CHIP CAP.	0.1μF 50V Z	
C5121	QEKC0JM-107MZ	E CAP.	100μF 6.3V M	
C5122	NCF21HZ-104AY	CHIP CAP.	0.1μF 50V Z	
C5123	QEKC1CM-476MZ	E CAP.	47μF 16V M	
C5124	NCF21HZ-104AY	CHIP CAP.	0.1μF 50V Z	
C5126	NCF21HZ-104AY	CHIP CAP.	0.1μF 50V Z	
C5127	NCT03CH-7R0AY	CHIP CAP.	7.0pF 50V J	
C5128-29	NCF21HZ-104AY	CHIP CAP.	0.1μF 50V Z	
C5201-03	QEKC1HM-105GMZ	E CAP.	1μF 50V M	
C5301	QEKC1CM-106GMZ	E CAP.	10μF 16V M	
C5302	QEKC1HM-224GMZ	E CAP.	0.22μF 50V M	
C5303	NCB21HK-223AY	CHIP CAP.	0.022μF 50V K	
C5304	QEKC1HM-105GMZ	E CAP.	1μF 50V M	
C5401-03	QEKC1HM-105GMZ	E CAP.	1μF 50V M	

⚠ Symbol No.	Part No.	Part Name	Description	Local
COIL				
L5101-02	CELP008-100YL	CHIP P COIL	10 µH	
L5103	CELP008-330YL	INDUCTOR	33 µH	
DIODE				
D5101-11	MA3056(L)-X	ZENER DIODE		
D5112	MA3043-X	ZENER DIODE		
D5113-14	MA151K-X	DIODE		
D5301	MA151K-X	DIODE		
D5501-04	MA3056(L)-X	ZENER DIODE		
D5701	MA3150(M)-X	ZENER DIODE		
D5702-04	MA3056(L)-X	ZENER DIODE		
D5705-06	MA3150(M)-X	ZENER DIODE		
D5707-08	MA3056(L)-X	ZENER DIODE		
D5709-11	MA3150(M)-X	ZENER DIODE		
D5712	MA8130-X	ZENER DIODE		
D5713	MA3056(L)-X	ZENER DIODE		
D5714	MA8056-X	ZENER DIODE		
D5715	MA3056(L)-X	ZENER DIODE		
D5716	MA8056-X	ZENER DIODE		
D5717	MA3150(M)-X	ZENER DIODE		
D5718	MA3056(L)-X	ZENER DIODE		
D5719	MA8130-X	ZENER DIODE		
D5720-22	MA3056(L)-X	ZENER DIODE		
D5723	MA8056-X	ZENER DIODE		
D5724	MA3150(M)-X	ZENER DIODE		
D5725	MA8130-X	ZENER DIODE		
D5726	MA3056(L)-X	ZENER DIODE		
D5727	MA8056-X	ZENER DIODE		
D5728-32	MA3056(L)-X	ZENER DIODE		
TRANSISTOR				
Q5101-06	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5201	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5202	2SA1162(YG)-X	CHIP TRANSISTOR		
Q5203	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5204	2SA1162(YG)-X	CHIP TRANSISTOR		
Q5205	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5206	2SA1162(YG)-X	CHIP TRANSISTOR		
Q5207-10	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5301-03	2SA1162(YG)-X	CHIP TRANSISTOR		
Q5304	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5401	2SC2712(YG)-X	CHIP TRANSISTOR		
I C				
IC5101	MB89647PF-140	I C		
IC5102	MB90077PF-109	I.C(MICRO-COMP)		
IC5103	ST24BM-1400	I.C.(EP-ROM)	(SERVICE)	
IC5105	GP1U781Q	IFR DETECT UNIT		
IC5106	HD74HC158FP	I.C(DIGI-OTHER)		
IC5108	HD74HC32FP	I.C.		
IC5401	UPC4558G-W	I.C(MONO-ANA)		
OTHERS				
CF5101	CST8.00MTW	CER.RESONATOR		

INPUT PW BOARD ASS'Y (FX-6052A)

⚠ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R6201	QRV141F-75R0AY	MF R	75 Ω 1/4W F	
R6211	QRV141F-75R0AY	MF R	75 Ω 1/4W F	
R6231	QRV141F-75R0AY	MF R	75 Ω 1/4W F	
R6301	QRV141F-75R0AY	MF R	75 Ω 1/4W F	
R6701	QRV141F-75R0AY	MF R	75 Ω 1/4W F	
R6731	QRV141F-75R0AY	MF R	75 Ω 1/4W F	
R6761	QRV141F-75R0AY	MF R	75 Ω 1/4W F	
CAPACITOR				
C6201	QEKC1HM-475GMZ	E CAP.	4.7 μF 50V M	
C6203	QEKC1CM-336MZ	E CAP.	33 μF 16V M	
C6205	QEKC1HM-475GMZ	E CAP.	4.7 μF 50V M	
C6207	QEKC1CM-336MZ	E CAP.	33 μF 16V M	
C6220	QEKC1HM-475GMZ	E CAP.	4.7 μF 50V M	
C6230-31	QFLC1HK-333MZ	M CAP.	0.033 μF 50V K	
C6281-84	QEKC1CM-107MZ	E CAP.	100 μF 16V M	
C6301	QFLC1HJ-103MZ	M CAP.	0.01 μF 50V J	
C6751	QEKC1HM-475GMZ	E CAP.	4.7 μF 50V M	
C6783-84	QFLC1HJ-104MZ	M CAP.	0.1 μF 50V J	
COIL				
L6701	CELP026-330Z	PEAKING COIL	33 μH	
L6702	CELP026-680Z	PEAKING COIL	68 μH	
L6703	CELP026-330Z	PEAKING COIL	33 μH	
L6704	CELP026-680Z	PEAKING COIL	68 μH	
DIODE				
D6201-09	1SS133-T2	SI.DIODE		
D6211-12	1SS133-T2	SI.DIODE		
D6301-03	1SS133-T2	SI.DIODE		
D6701-12	1SS133-T2	SI.DIODE		
D6801-10	1SS133-T2	SI.DIODE		
TRANSISTOR				
Q6201-03	2SC1740S(R)-T	SI.TRANSISTOR		
Q6204	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6206	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6211	2SK301(Q)-T	F.E.T.		
Q6301	2SC1740S(R)-T	SI.TRANSISTOR		
Q6302-03	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6601-03	2SC1740S(R)-T	SI.TRANSISTOR		
Q6604-06	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6701-03	2SC1740S(R)-T	SI.TRANSISTOR		
Q6704	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6706	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6707	2SA933S(QR)-T	SI.TRANSISTOR		
Q6708-09	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6711	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6712	2SA933S(QR)-T	SI.TRANSISTOR		
Q6713-14	2SC1740S(QR)-T	SI.TRANSISTOR		
Q6716-20	2SC1740S(QR)-T	SI.TRANSISTOR		
IC				
IC6201	LA7016	I.C(MONO-ANA)		
IC6601	TC4066BP	I.C(DIGI-MOS)		
IC6701	TC4053BP	I.C(DIGI-MOS)		
IC6801	HD74LS04P	I.C(DIGI-OTHER)		
OTHERS				
J6201	CEMB010-004	BNC CONNECTOR	VIDEO A/B /SYNC IN	
J6202	CEMB010-004	BNC CONNECTOR	VIDEO A/B /SYNC OUT	
J6301	QMCC006-C01	DIN CONNECTOR	Y/C IN	
J6302	QMCC006-C01	DIN CONNECTOR	Y/C OUT	
J6601	CEMN070-001	PIN JACK	AUDIO A OUT/IN	
J6602	CEMN070-001	PIN JACK	AUDIO B OUT/IN	
J6603	CEMN070-001	PIN JACK	AUDIO C OUT/IN	
J6701	CEMB010-004	BNC CONNECTOR	G/Y/B/B-Y/R/R-Y IN	

⚠ Ref.No.	Part No.	Part Name	Description	Local
OTHERS				
J6702	CEMB010-004	BNC CONNECTOR	G/Y/B/B-Y/R/R-Y OUT	
J6801	QMCC502-C01	DIN JACK		
S6201-03	QSS4C22-C02	SLIDE SWITCH	OPEN←→75Ω	
S6701-04	QSS4C22-C02	SLIDE SWITCH	OPEN←→75Ω	

POWER PW BOARD ASS'Y (FX-9038A)

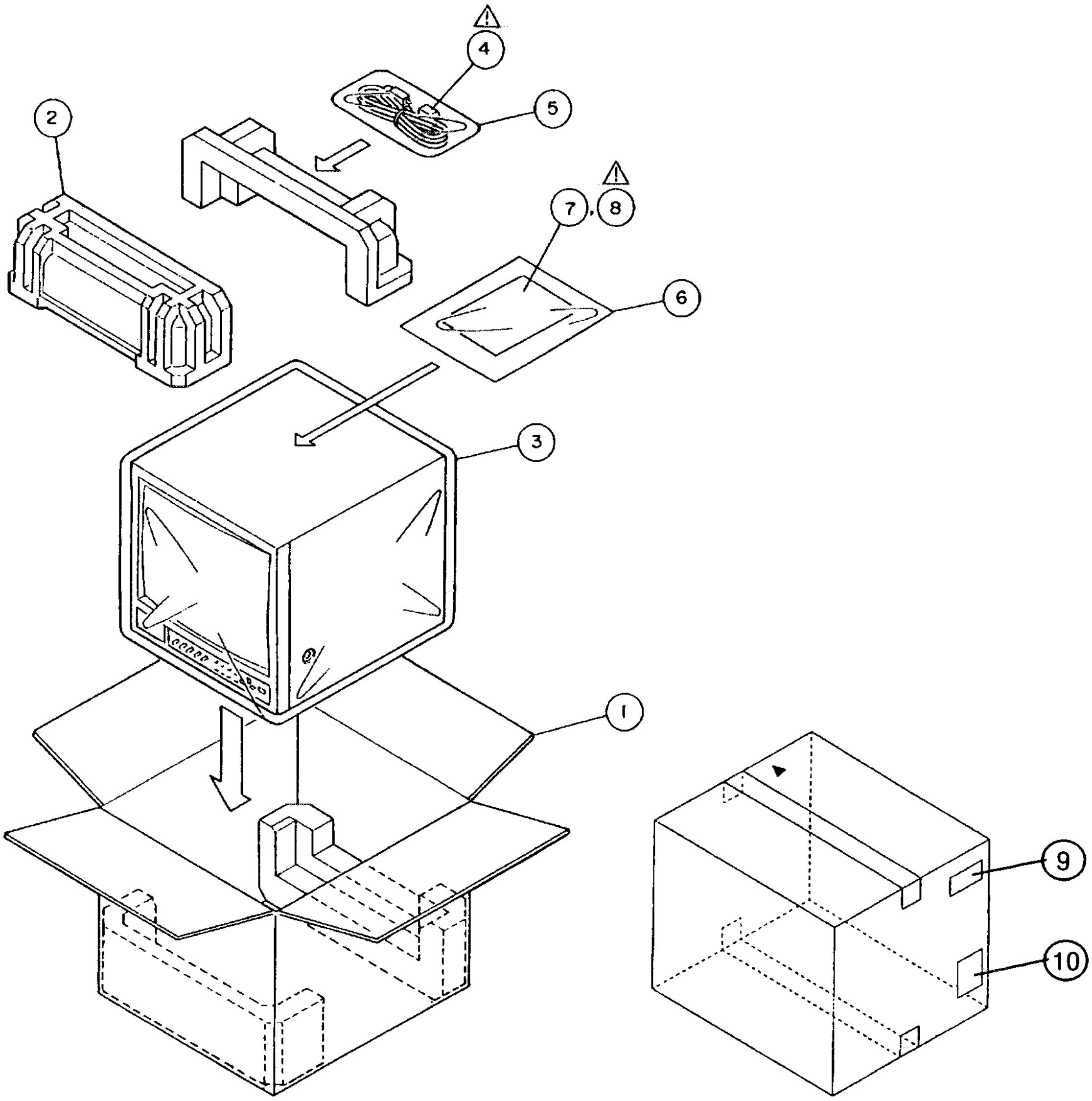
⚠ Symbol No.	Part No.	Part Name	Description	Local
VARIABLE RESISTOR				
R9038	QVPC611-102HZ	V R	1kΩ B(B1 ADJ.)	
RESISTOR				
⚠ R9002	QRD122J-474S	C R	470kΩ 1/2W J	
R9005-06	QRD123J-104SX	C R	100kΩ 1/2W J	
R9014	QRM059K-R22	MP R	0.22 Ω 5W K	
R9015	QRG039J-563A	OM R	56kΩ 3W J	
R9016	QRD123J-182SX	C R	1.8kΩ 1/2W J	
R9030	QRD123J-100SX	C R	10 Ω 1/2W J	
R9034	QRV141F-1502AY	MF R	15kΩ 1/4W F	
R9035	QRV141F-1002AY	MF R	10kΩ 1/4W F	
R9037	QRV141F-3901AY	MF R	3.9kΩ 1/4W F	
R9039	QRD123J-154SX	C R	150kΩ 1/2W J	
R9041	QRD123J-154SX	C R	150kΩ 1/2W J	
R9042	QRD123J-153SX	C R	15kΩ 1/2W J	
R9043	QRD123J-184SX	C R	180kΩ 1/2W J	
R9044	QRV141F-3901AY	MF R	3.9kΩ 1/4W F	
R9045	QRV141F-2701AY	MF R	2.7kΩ 1/4W F	
R9048	QRV141F-1501AY	MF R	1.5kΩ 1/4W F	
R9053	QRX029J-R39A	MF R	0.39 Ω 2W J	
R9054	QRD123J-3R3SX	C R	3.3 Ω 1/2W J	
R9060	QRF154K-4R7	UNF R	4.7 Ω 15W K	
R9061-64	QRG039J-123	OM R	12kΩ 3W J	
R9065	QRG039J-223	OM R	22kΩ 3W J	
CAPACITOR				
⚠ C9001	QCZ9033-472A	C CAP.	4700 p FAC125V K	
⚠ C9002	QCZ9033-472A	C CAP.	4700 p FAC125V K	
⚠ C9003	QFZ9035-474M	MM CAP.	0.47 μ FAC125V M	
⚠ C9004	QFZ9035-474M	MM CAP.	0.47 μ FAC125V M	
⚠ C9005	QCZ9033-472A	C CAP.	4700 p FAC125V K	
⚠ C9006	QCZ9033-472A	C CAP.	4700 p FAC125V K	
⚠ C9007	QCZ9033-332A	C CAP.	3300 p FAC125V K	
⚠ C9009	QCZ9033-332A	C CAP.	3300 p FAC125V K	
⚠ C9010	QEZ0144-477R	E CAP.	470 μF 400V M	
C9018	QEHC1HM-226MZ	E CAP.	22 μF 50V M	
C9019	QFP31HJ-152SZ	PP CAP.	1500 p F 50V J	
C9020	QEHC1HM-105MZ	E CAP.	1 μF 50V M	
C9021	QFLC1HJ-103MZ	M CAP.	0.01 μF 50V J	
C9022	QEHC1HM-475MZ	E CAP.	4.7 μF 50V M	
C9023	QFLC1HK-222MZ	M CAP.	2200 p F 50V K	
C9025	QEHC1EM-107MZ	E CAP.	100 μF 25V M	
C9026	QFLC1HK-473MZ	M CAP.	0.047 μF 50V K	
C9027	QEN61HM-105Z	BP E CAP.	1 μF 50V M	
C9029	QFLC1HK-333MZ	M CAP.	0.033 μF 50V K	
C9036	QFLC1HJ-103MZ	M CAP.	0.01 μF 50V J	
C9038	QEHB1EM-338M	E CAP.	3300 μF 25V M	
C9039	QEHB1EM-228M	E CAP.	2200 μF 25V M	
C9046	QEHB2CM-227M	E CAP.	220 μF 160V M	
C9049-51	CEX41161-001	E CAP.	470MF 100V M	
C9517	QETB2AM-477	E CAP.	470 μF 100V M	

⚠	Ref.No.	Part No.	Part Name	Description	Local
	TRANSFORMER				
⚠	T9001	CETS003-001	SWITCH.TRANSF.		
⚠	T9002	CE41856-00A	PULSE TRANSF.		
	COIL				
	L9901	CELP006-4R7Z	PEAKING COIL	4.7µH	
	L9902	CJ30030-100	HEATER CHOKE		
	DIODE				
⚠	D9001	S4VB60-L15	BRIDGE DIODE		
	D9005	RG2A-LFC4	SI.DIODE		
	D9006	FML-G12S	SI.DIODE		
	D9009	1SS133-T2	SI.DIODE		
	D9010	RL4Z-C1	SI.DIODE		
	D9012	EG1Z-T3	SI.DIODE		
	D9013-14	1SS133-T2	SI.DIODE		
	D9016-17	1SS133-T2	SI.DIODE		
	D9018-19	RG4C-C1	SI.DIODE		
	D9020	1SS133-T2	SI.DIODE		
	D9021-22	MA4068(N)C1-T2	ZENER DIODE		
	D9023	MA4110(M)-T2	ZENER DIODE		
	D9024	RD5.6ES(B2)-T2	ZENER DIODE		
	D9026	RD18ES(B3)-T2	ZENER DIODE		
	D9027	MA4300(M)-T2	ZENER DIODE		
	D9028	1SS81-T5	SI.DIODE		
	D9032	1SS81-T5	SI.DIODE		
	D9033	RD4.3E(B2)-T2	ZENER DIODE		
	TRANSISTOR				
	Q9001-02	2SC1959(Y)-T	SI.TRANSISTOR		
	Q9003	2SA562TM(Y)-T	SI.TRANSISTOR		
⚠	Q9004	2SK1118	F.E.T.		
	Q9005	2SD1409	SI.TRANSISTOR		
	Q9006	2SC1959(Y)-T	SI.TRANSISTOR		
	Q9008	2SA1370(E)	SI.TRANSISTOR		
	Q9012	2SC1472K(AB)-T	SI TRANSISTOR		
	IC				
⚠	IC9001	FA5301BP	IC		
	OTHERS				
⚠	F9001	QMF51E2-4R0S	FUSE	4.0A	
⚠	FR9901	QRH127K-R22M	FR	0.22 Ω 1/2W K	
⚠	FR9902	QRH127K-R22M	FR	0.22 Ω 1/2W K	
⚠	FR9903	QRH127K-R22M	FR	0.22 Ω 1/2W K	
	K9902-03	CE41923-001	CORE SLEEVE		
	K9905	CE42050-001Z	CORE		
⚠	LF9001	CE41775-003	LINE FILTER		
⚠	LF9002	CE41775-003	LINE FILTER		
⚠	PC9001	CNY17F-C1	I.C(PH.COUPLER)		
⚠	RY9002	CESK026-001	RELAY		
⚠	SW01	QSP4D21-C06	PUSH SWITCH	POWER	
⚠	TH9001	CEKP009-001	P.THERMISTOR		
⚠	VA9001	ERZ-C10VK621G	VARISTOR		

V.SAW MODULE PW BOARD ASS'Y (FX-M004A)

⚠	Ref.No.	Part No.	Part Name	Description	Local
	OTHERS				
		FX-M004A	V.SAW MODULE PW		

PACKING



PACKING PARTS LIST

⚠	Ref.No.	Part No.	Part Name	Description	Local
	1	CP11224-A35	PACKING CASE		
	2	CP11312-C0A	CUSHION ASSY	4pcs in 1set	
	3	CP30974-004	POLY BAG		
⚠	4	QMP4908-200K	POWER CORD		
	5	QPGA012-03005	POLY BAG		
	6	CP30975-001	POLY BAG		
	7	CM23063-001	X-RAY CARD		
⚠	8	CQ40026-004	INST.BOOK		
	9	CM47385-00A	POS/SERIAL LABEL		
	10	CP40344-001	SDI LABEL		

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